



SAVEETHA ENGINEERING COLLEGE

AUTONOMOUS


Affiliated to Anna University | Approved by AICTE

REGULATIONS 2019
FLEXIBLE CHOICE BASED CREDIT SYSTEM
DEPARTMENT OF MECHANICAL ENGINEERING
B.E. Mechanical Engineering
CURRICULUM

S.No.	Category	Course Code	Course Title	Contact Hours per Week			Credits	Prerequisite
				L	T	P		
1	HS	19EN101	Communicative English	3	0	2	4	-
2	HS	19EN102	Technical English	3	0	2	4	-
3	HS	19MS152	Total Quality Management	3	0	0	3	-
4	BS	19MA201	Calculus and Matrix Algebra	3	1	0	4	-
5	BS	19MA205	Differential Equations and Laplace Transforms	3	1	0	4	19MA201
6	BS	19MA211	Statistics and Numerical Methods	3	0	2	4	-
7	BS	19PH202	Fundamentals of Engineering Physics	3	0	2	4	-
8	BS	19PH211	Materials Science	3	0	2	4	19PH202
9	BS	19CY208	Basic Engineering Chemistry	3	0	2	4	-
10	ES	19ME301	Engineering Graphics	3	0	4	5	-
11	ES	19CS301	Problem Solving and Python Programming	3	0	2	4	-
12	ES	19EE306	Basic Electrical, Electronics and Instrumentation Engineering	2	0	2	3	-
13	ES	19ME303	Engineering Mechanics for Mechanical Engineers	3	1	2	5	-
14	ES	19ME304	Strength of Materials for Mechanical Engineers	3	1	2	5	-
15	ES	19ME305	Fluid Mechanics and Machinery	3	0	2	4	-
16	PC	19ME401	Engineering Thermodynamics	3	0	2	4	-
17	PC	19ME402	Manufacturing Technology I	3	0	2	4	-
18	PC	19ME403	Kinematics of Machines	3	0	2	4	-
19	PC	19ME404	Manufacturing Technology II	3	0	2	4	-
20	PC	19ME405	Thermal Engineering	3	0	2	4	19ME401
21	PC	19ME406	Heat and Mass Transfer	3	1	2	5	19ME401
22	PC	19ME407	Design of Machine Elements	3	0	2	4	-
23	PC	19ME408	Metrology and Measurements	3	0	2	4	-
24	PC	19ME409	Dynamics of Machines	3	0	2	4	19ME403
25	PC	19ME410	Design of Transmission Systems	3	0	2	4	19ME407
26	PC	19ME411	Finite Element Analysis	3	1	2	5	-
27	PC	19ME412	Mechatronics	3	0	2	4	-
28	PC	19ME413	Power Plant Engineering	3	0	2	4	-
29	PE	19ME501	Composite Materials and Mechanics	2	0	2	3	-
30	PE	19ME502	Design of Jigs, Fixtures and Press Tools	2	0	2	3	-
31	PE	19ME503	Design of Pressure Vessel and Piping	2	0	2	3	-
32	PE	19ME504	Mechanical Vibrations and Noise Control	2	0	2	3	19ME409
33	PE	19ME505	Computer Aided Design	2	0	2	3	-
34	PE	19ME506	Computational Techniques for Fluid Dynamics	2	0	2	3	-
35	PE	19ME507	Product Design and Development	2	0	2	3	-
36	PE	19ME508	Design Concepts in Engineering	2	0	2	3	-
37	PE	19ME509	Design of Heat Exchangers	2	0	2	3	19ME406
38	PE	19ME510	Energy Conservation in Industries	2	0	2	3	-
39	PE	19ME511	Automobile Engineering	2	0	2	3	-

40	PE	19ME512	Turbo Machinery	2	0	2	3	19ME305
41	PE	19ME513	Gas Dynamics and Space Propulsion	2	0	2	3	19ME401
42	PE	19ME514	Refrigeration and Air Conditioning	2	0	2	3	19ME405
43	PE	19ME515	Advanced Internal Combustion Engineering	2	0	2	3	19ME405
44	PE	19ME516	Additive Manufacturing Technology	2	0	2	3	-
45	PE	19ME517	Advanced Metrology	2	0	2	3	-
46	PE	19ME518	Casting and Welding Processes	2	0	2	3	19ME402
47	PE	19ME519	Engineering Materials and Metallurgy	2	0	2	3	19PH211
48	PE	19ME520	Non Traditional Machining Processes	2	0	2	3	-
49	PE	19ME521	Computer Integrated Manufacturing Systems	2	0	2	3	-
50	PE	19ME522	Measurement and Controls	2	0	2	3	-
51	PE	19ME523	Non Destructive Materials Evaluation	2	0	2	3	-
52	PE	19ME524	Sustainable and Green Manufacturing	2	0	2	3	-
53	PE	19ME525	Production, Planning and Control	2	0	2	3	-
54	PE	19ME526	Quality Control and Reliability Engineering	2	0	2	3	-
55	PE	19ME527	Hydraulics and Pneumatics	2	0	2	3	-
56	PE	19ME528	Principles of Robotics	2	0	2	3	-
57	PE	19ME529	Process Planning and Cost Estimation	2	0	2	3	-
58	PE	19ME530	Machine Vision	2	0	2	3	-
59	PE	19ME531	Intellectual Property Rights	2	0	2	3	-
60	PE	19ME532	Entrepreneurship Development	2	0	2	3	-
61	PE	19ME533	3D Printing Processes	3	0	2	4	-
62	OE	19AG601	Principles of Crop Production	2	0	2	3	-
63	OE	19AG514	Food Packaging Technology	2	0	2	3	-
64	OE	19AG509	Human Engineering and Safety	2	0	2	3	-
65	OE	19AG424	Remote Sensing and GIS Applications	2	0	2	3	-
66	OE	19AG421	Dairy and Food Engineering	2	0	2	3	-
67	OE	19BM601	Fundamentals of Nutrition	3	0	0	3	-
68	OE	19BM602	Biomedical Waste Management	3	0	0	3	-
69	OE	19BM603	Healthcare Technologies	3	0	0	3	-
70	OE	19BM604	Prosthetic Engineering	3	0	0	3	-
71	OE	19BM605	Medical Devices	3	0	0	3	-
72	OE	19BM606	Biology for Engineers	3	0	0	3	-
73	OE	19CE510	Integrated Water Resources Management	3	0	0	3	-
74	OE	19CE521	Air Pollution Engineering	3	0	0	3	-
75	OE	19CE525	Traffic Engineering	3	0	0	3	-
76	OE	19CE527	Construction Engineering and Occupational Safety	3	0	0	3	-
77	OE	19CE528	Contract Laws and Regulations	3	0	0	3	-
78	OE	19CS601	Database Management Systems	3	0	0	3	-
79	OE	19CS602	Business Intelligence and its Applications	3	0	0	3	-
80	OE	19CS603	Object Oriented Analysis and Design	3	0	0	3	-
81	OE	19CS516	Software Testing and Quality Assurance	3	0	0	3	-
82	OE	19CS525	Industrial IOT	3	0	0	3	-
83	OE	19EE601	Embedded Based Product Design and Development	3	0	0	3	-
84	OE	19EE602	Electrical Safety	3	0	0	3	-
85	OE	19EE603	Renewable Energy Sources	3	0	0	3	-
86	OE	19EE604	Fundamentals of Electric Power Utilization	3	0	0	3	-
87	OE	19EE605	Industrial Automation and Robotics	3	0	0	3	-
88	OE	19EE606	Solar Photovoltaic Energy	2	0	2	3	-
89	OE	19EC601	Electronic Packaging	3	0	0	3	-
90	OE	19EC602	Introduction to Micro Electro Mechanical Systems	3	0	0	3	-

91	OE	19EC603	Fuzzy Logic Systems and ANN	3	0	0	3	-
92	OE	19EC604	Consumer Electronics	3	0	0	3	-
93	OE	19EC605	Electronic System Design	3	0	0	3	-
94	OE	19EC606	Drones for Agriculture	3	0	0	3	-
95	OE	19EI601	Electrical and Electronic Measurements	3	0	0	3	-
96	OE	19EI602	Instrumentation and Control Systems	3	0	0	3	-
97	OE	19EI504	Environmental Instrumentation	3	0	0	3	-
98	OE	19EI508	SCADA Systems and Applications	3	0	0	3	-
99	OE	19EI511	Telemetry and Tele Control	3	0	0	3	-
100	OE	19BY201	Introduction to Biology	2	0	0	2	-
101	OE	19MD501	Tele Health Technology	3	0	0	3	-
102	OE	19MD509	Bio MEMS	3	0	0	3	-
103	OE	19MD512	Medical Wearable Systems	3	0	0	3	-
104	OE	19MD601	Biomedical Sensors and Measurements	3	0	0	3	-
105	OE	19MD602	Biomedical Optics	3	0	0	3	-
106	OE	19CH503	Energy Technology	3	0	0	3	-
107	OE	19CH505	Green Technology	3	0	0	3	-
108	OE	19CH511	Food Technology	3	0	0	3	-
109	OE	19CH512	Drugs and Pharmaceutical Technology	3	0	0	3	-
110	OE	19CH516	Corrosion Technology	3	0	0	3	-
111	OE	19IT517	Data Security	3	0	0	3	-
112	OE	19IT518	Game Theory	3	0	0	3	-
113	OE	19IT519	Data Analysis using R Programming	3	0	0	3	-
114	OE	19IT520	Linux Fundamentals	3	0	0	3	-
115	OE	19IT521	Internet Technologies	3	0	0	3	-
116	OE	19IT522	Fundamentals of Databases	3	0	0	3	-
117	OE	19EN601	Creative Writing	2	0	0	2	-
118	OE	19EN602	English through Media	2	0	0	2	-
119	OE	19EN603	Introduction to Design	0	0	4	2	-
120	OE	19EN604	Design Thinking	2	0	0	2	-
121	OE	19EN605	Modern Trends in Physical Education and Sports Sciences	0	0	4	2	-
122	OE	19EN606	Psychology for Professionals	2	0	0	2	-
123	OE	19EN607	Heritage Studies	0	0	4	2	-
124	OE	19EN608	Mime Theatre Art	0	0	4	2	-
125	OE	19EN609	Gender Sensitization	2	0	0	2	-
126	OE	19EN610	French Basic	0	0	4	2	-
127	OE	19EN611	French Advanced	0	0	4	2	19EN610
128	OE	19EN612	German Basic	0	0	4	2	-
129	OE	19EN613	German Advanced	0	0	4	2	19EN612
130	OE	19EN614	Japanese Basic	0	0	4	2	-
131	OE	19EN615	Japanese Advanced	0	0	4	2	19EN614
132	OE	19EN616	Yoga and Meditation	0	0	2	1	-
133	OE	19EN617	Product Design for Future	0	0	4	2	-
134	OE	19EN618	Indian Astronomy and Mathematics	2	0	0	2	-
135	OE	19EN619	Inventions and Discoveries	2	0	0	2	-
136	OE	19EN620	Mandarin	0	0	4	2	-
137	OE	19EN621	Spanish Basic	0	0	4	2	-
138	OE	19EN622	Spanish Advanced	0	0	4	2	19EN621
139	OE	19EN623	Dream, Draw and Create	0	0	4	2	-
140	OE	19MA601	Resource Management Techniques	3	0	0	3	-
141	OE	19MA602	Statistics for Engineers	3	0	0	3	-

142	OE	19ME603	Thermal Processing of Foods(NPTEL)	0	0	0	2	-
143	OE	19ME604	Fundamentals of Additive Manufacturing Technologies (NPTEL)	0	0	0	2	-
144	OE	19ME605	Automation in Manufacturing(NPTEL)	0	0	0	2	-
145	OE	19ME606	Design of Mechatronic Systems(NPTEL)	0	0	0	2	-
146	OE	19ME607	Energy Conservation and Waste Heat Recovery (NPTEL)	0	0	0	2	-
147	OE	19ME608	Principles of Industrial Engineering (NPTEL)	0	0	0	2	-
148	OE	19ME609	Product Design and Manufacturing (NPTEL)	0	0	0	2	-
149	OE	19ME610	Understanding Incubation and Entrepreneurship (NPTEL)	0	0	0	2	-
150	EEC	19ME701	Design and Fabrication Project	0	0	4	2	-
151	EEC	19ME702	Project Work Phase I	0	0	4	2	-
152	EEC	19ME703	Project Work Phase II	0	0	12	6	-
153	EEC	19EY701	Soft Skills	0	0	2	1	-
154	EEC	19EY702	Creative Skills for Communication	0	0	2	1	-
155	EEC	19EY703	System of Numerical and Logical Terminologies	0	0	2	1	-
156	EEC	19EY704	Advanced Quantitative and Logical Reasoning	0	0	2	1	-
157	EEC	19EY705	Employment Enhancement Skills	0	0	2	1	-
158	EEC	19EY706	Company Specific Assessments for Employability	0	0	2	1	-
159	MC	19MC801	Professional Ethics	3	0	0	0	-
160	MC	19MC802	Environmental Science	3	0	0	0	-
161	MC	19MC803	Constitution of India	3	0	0	0	-
162	MC	19MC804	Internship/Entrepreneurship/Consultancy	0	0	0	2	-
163	MC	19MC805	Inplant Training	0	0	0	1	-
164	MC	19MC806	Paper Publication	0	0	0	1	-
165	MC	19MC807	National Service Scheme	0	0	0	0	-
166	MC	19MC808	National Sports Organization	0	0	0	0	-
167	MC	19MC809	Youth Red Cross	0	0	0	0	-

CREDIT SUMMARY				
CATEGORY	REGULAR		LATERAL ENTRY	
	Credits	Credit%	Credits	Credit%
Humanities and Social Science Courses	11	6.75	3	2.4
Basic Science Courses	24	14.6	4	3.2
Engineering Science Courses	26	15.8	12	9.8
Professional Core Courses	54	32.9	54	44.2
Professional Elective Courses	21	12.8	21	17.2
Open Elective Courses	12	7.3	12	9.8
Employability Enhancement Courses	16	9.8	16	13.1
Total	164	100	122	100
Mandatory Courses	4		4	

LEGEND

	Courses exempted for Lateral Entry students
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