



SAVEETHA ENGINEERING COLLEGE

AUTONOMOUS



Affiliated to Anna University | Approved by AICTE

REGULATIONS 2019
FLEXIBLE CHOICE BASED CREDIT SYSTEM
DEPARTMENT OF CHEMICAL ENGINEERING
B.Tech., Chemical 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	19MA209	Numerical Methods	3	1	0	4	19MA201
7	BS	19PH204	Physics for Chemical Engineering	3	0	2	4	-
8	BS	19CY204	Chemistry for Technologists I	3	0	2	4	-
9	BS	19CY209	Chemistry for Technologists II	3	0	2	4	-
10	BS	19CY210	Chemistry for Technologists III	3	0	2	4	-
11	ES	19CS301	Problem Solving and Python Programming	3	0	2	4	-
12	ES	19ME302	Engineering Drawing	2	0	2	3	-
13	ES	19ME307	Basic Mechanical Engineering	3	0	2	4	-
14	ES	19EE306	Basic Electrical, Electronics and Instrumentation Engineering	2	0	2	3	-
15	ES	19CH301	Principles of Chemical Engineering	3	0	0	3	-
16	ES	19CH302	Basics of Material Science and Solid Mechanics	3	0	0	3	-
17	ES	19CH303	Chemical Process Calculations	3	1	0	4	-
18	PC	19CH401	Fluid Mechanics for Chemical Engineers	3	0	2	4	-
19	PC	19CH402	Chemical Engineering Thermodynamics	3	1	0	4	19CH301
20	PC	19CH403	Mechanical Operations	3	0	2	4	-
21	PC	19CH404	Chemical Process Industries	3	0	0	3	-
22	PC	19CH405	Heat Transfer	3	0	2	4	-
23	PC	19CH406	Mass Transfer I	3	0	2	4	-
24	PC	19CH407	Chemical Reaction Engineering I	3	0	2	4	-
25	PC	19CH408	Mass Transfer II	3	0	2	4	19CH406
26	PC	19CH409	Chemical Reaction Engineering II	3	1	0	4	19CH407
27	PC	19CH410	Transport Phenomena	3	1	0	4	19CH405/ 19CH408
28	PC	19CH411	Process Instrumentation, Dynamics and Control	3	0	2	4	-
29	PC	19CH412	Process Equipment Design and Drawing	2	1	2	4	19CH405/ 19CH408
30	PC	19CH413	Project Engineering Economics	3	0	0	3	19CH404
31	PC	19CH414	Safety in Chemical Industries	3	0	0	3	-
32	PC	19CH415	Computational Programming Laboratory	0	0	4	2	-
33	PE	19CH501	Petroleum Refining and Petrochemicals	3	0	0	3	-
34	PE	19CH502	Natural Gas Engineering	3	0	0	3	-
35	PE	19CH503	Energy Technology	3	0	0	3	-
36	PE	19CH504	Air Pollution and Control	3	0	0	3	-
37	PE	19CH505	Green Technology	3	0	0	3	-
38	PE	19CH506	Wastewater Treatment	3	0	0	3	-
39	PE	19CH507	Disaster Management	3	0	0	3	-
40	PE	19CH508	Process Plant Utilities	3	0	0	3	-
41	PE	19CH509	Instrumental Methods of Analysis	3	0	0	3	-
42	PE	19CH510	Instrumentation and Control	3	0	0	3	-
43	PE	19CH511	Food Technology	3	0	0	3	-
44	PE	19CH512	Drugs and Pharmaceutical Technology	3	0	0	3	-
45	PE	19CH513	Polymer Science and Technology	3	0	0	3	-
46	PE	19CH514	Pulp and Paper Technology	3	0	0	3	-
47	PE	19CH515	Fertilizer Technology	3	0	0	3	-
48	PE	19CH516	Corrosion Technology	3	0	0	3	-

49	PE	19CH517	Enzyme Engineering	3	0	0	3	-
50	PE	19CH518	Biochemical Engineering	3	0	0	3	-
51	PE	19CH519	Novel Separation Techniques	3	0	0	3	-
52	PE	19CH520	Process Modelling and Simulation	3	0	0	3	-
53	PE	19CH521	Chemical Process Instrumentation	3	0	0	3	-
54	OE	19AG601	Principles of Crop Production	2	0	2	3	-
55	OE	19AG514	Food Packaging Technology	2	0	2	3	-
56	OE	19AG509	Human Engineering and Safety	2	0	2	3	-
57	OE	19AG424	Remote Sensing and GIS Applications	2	0	2	3	-
58	OE	19AG421	Dairy and Food Engineering	2	0	2	3	-
59	OE	19BM601	Fundamentals of Nutrition	3	0	0	3	-
60	OE	19BM602	Biomedical Waste Management	3	0	0	3	-
61	OE	19BM603	Healthcare Technologies	3	0	0	3	-
62	OE	19BM604	Prosthetic Engineering	3	0	0	3	-
63	OE	19BM605	Medical Devices	3	0	0	3	-
64	OE	19BM606	Biology for Engineers	3	0	0	3	-
65	OE	19CE510	Integrated Water Resources Management	3	0	0	3	-
66	OE	19CE521	Air Pollution Engineering	3	0	0	3	-
67	OE	19CE525	Traffic Engineering	3	0	0	3	-
68	OE	19CE527	Construction Engineering and Occupational Safety	3	0	0	3	-
69	OE	19CE528	Contract Laws and Regulations	3	0	0	3	-
70	OE	19CS601	Database Management Systems	3	0	0	3	-
71	OE	19CS602	Business Intelligence and its Applications	3	0	0	3	-
72	OE	19CS603	Object Oriented Analysis and Design	3	0	0	3	-
73	OE	19CS516	Software Testing and Quality Assurance	3	0	0	3	-
74	OE	19CS525	Industrial IOT	3	0	0	3	-
75	OE	19EE601	Embedded Based Product Design and Development	3	0	0	3	-
76	OE	19EE602	Electrical Safety	3	0	0	3	-
77	OE	19EE603	Renewable Energy Sources	3	0	0	3	-
78	OE	19EE604	Fundamentals of Electric Power Utilization	3	0	0	3	-
79	OE	19EE605	Industrial Automation and Robotics	3	0	0	3	-
80	OE	19EE606	Solar Photovoltaic Energy	2	0	2	3	-
81	OE	19EC601	Electronic Packaging	3	0	0	3	-
82	OE	19EC602	Introduction to Micro Electro Mechanical Systems	3	0	0	3	-
83	OE	19EC603	Fuzzy Logic Systems and ANN	3	0	0	3	-
84	OE	19EC604	Consumer Electronics	3	0	0	3	-
85	OE	19EC605	Electronic System Design	3	0	0	3	-
86	OE	19EC606	Drones for Agriculture	3	0	0	3	-
87	OE	19EI601	Electrical and Electronic Measurements	3	0	0	3	-
88	OE	19EI602	Instrumentation and Control Systems	3	0	0	3	-
89	OE	19EI504	Environmental Instrumentation	3	0	0	3	-
90	OE	19EI508	SCADA Systems and Applications	3	0	0	3	-
91	OE	19EI511	Telemetry and Tele Control	3	0	0	3	-
92	OE	19BY201	Introduction to Biology	2	0	0	2	-
93	OE	19ME505	Computer Aided Design	2	0	2	3	-
94	OE	19ME511	Automobile Engineering	2	0	2	3	-
95	OE	19ME524	Sustainable and Green Manufacturing	2	0	2	3	-
96	OE	19ME529	Process Planning and Cost Estimation	2	0	2	3	-
97	OE	19ME531	Intellectual Property Rights	2	0	2	3	-
98	OE	19ME601	Mechatronics and Robotics	2	0	2	3	-
99	OE	19ME602	Hydraulic Drives and Controls	2	0	2	3	-
100	OE	19ME533	3D Printing Processes	3	0	2	4	-
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	19IT517	Data Security	3	0	0	3	-
107	OE	19IT518	Game Theory	3	0	0	3	-
108	OE	19IT519	Data Analysis using R Programming	3	0	0	3	-
109	OE	19IT520	Linux Fundamentals	3	0	0	3	-
110	OE	19IT521	Internet Technologies	3	0	0	3	-

111	OE	19IT522	Fundamentals of Databases	3	0	0	3	-
112	OE	19EN601	Creative Writing	2	0	0	2	-
113	OE	19EN602	English through Media	2	0	0	2	-
114	OE	19EN603	Introduction to Design	0	0	4	2	-
115	OE	19EN604	Design Thinking	2	0	0	2	-
116	OE	19EN605	Modern Trends in Physical Education and Sports Sciences	0	0	4	2	-
117	OE	19EN606	Psychology for Professionals	2	0	0	2	-
118	OE	19EN607	Heritage Studies	0	0	4	2	-
119	OE	19EN608	Mime Theatre Art	0	0	4	2	-
120	OE	19EN609	Gender Sensitization	2	0	0	2	-
121	OE	19EN610	French Basic	0	0	4	2	-
122	OE	19EN611	French Advanced	0	0	4	2	19EN610
123	OE	19EN612	German Basic	0	0	4	2	-
124	OE	19EN613	German Advanced	0	0	4	2	19EN612
125	OE	19EN614	Japanese Basic	0	0	4	2	-
126	OE	19EN615	Japanese Advanced	0	0	4	2	19EN614
127	OE	19EN616	Yoga and Meditation	0	0	2	1	-
128	OE	19EN617	Product Design for Future	0	0	4	2	-
129	OE	19EN618	Indian Astronomy and Mathematics	2	0	0	2	-
130	OE	19EN619	Inventions and Discoveries	2	0	0	2	-
131	OE	19EN620	Mandarin	0	0	4	2	-
132	OE	19EN621	Spanish Basic	0	0	4	2	-
133	OE	19EN622	Spanish Advanced	0	0	4	2	19EN621
134	OE	19EN623	Dream, Draw and Create	0	0	4	2	-
135	OE	19MA601	Resource Management Techniques	3	0	0	3	-
136	OE	19MA602	Statistics for Engineers	3	0	0	3	-
137	OE	19CH601	Abnormal Psychology (NPTEL)	0	0	0	2	-
138	OE	19CH602	Polymer Reaction Engineering (NPTEL)	0	0	0	2	-
139	OE	19CH603	Biomass Conversion and Biorefinery(NPTEL)	0	0	0	2	-
140	OE	19CH604	Computer Aided Applied Single Objective Optimization(NPTEL)	0	0	0	2	-
141	OE	19CH605	Upstream LNG Technology(NPTEL)	0	0	0	2	-
142	OE	19CH606	Material and Energy Balance Computations(NPTEL)	0	0	0	2	-
143	OE	19CH607	Polymers: Concepts, Properties, Uses and Sustainability(NPTEL)	0	0	0	2	-
144	EEC	19CH701	Mini Project	0	0	4	2	-
145	EEC	19CH702	Project Work Phase I	0	0	4	2	-
146	EEC	19CH703	Project Work Phase II	0	0	12	6	-
147	EEC	19EY701	Soft Skills	0	0	2	1	-
148	EEC	19EY702	Creative Skills for Communication	0	0	2	1	-
149	EEC	19EY703	System of Numerical and Logical Terminologies	0	0	2	1	-
150	EEC	19EY704	Advanced Quantitative and Logical Reasoning	0	0	2	1	-
151	EEC	19EY705	Employment Enhancement Skills	0	0	2	1	-
152	EEC	19EY706	Company Specific Assessments for Employability	0	0	2	1	-
153	MC	19MC801	Professional Ethics	3	0	0	0	-
154	MC	19MC802	Environmental Science	3	0	0	0	-
155	MC	19MC803	Constitution of India	3	0	0	0	-
156	MC	19MC804	Internship/Entrepreneurship/Consultancy	0	0	0	2	-
157	MC	19MC805	Inplant Training	0	0	0	1	-
158	MC	19MC806	Paper Publication	0	0	0	1	-
159	MC	19MC807	National Service Scheme	0	0	0	0	-
160	MC	19MC808	National Sports Organization	0	0	0	0	-
161	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	6.83	4	3.3
Basic Science Courses	28	17.39	4	3.3
Engineering Science Courses	24	14.91	14	11.7
Professional Core Courses	55	34.16	55	45.8
Professional Elective Courses	15	9.32	15	12.5
Open Elective Courses	12	7.45	12	10

Employability Enhancement Courses	16	9.94	16	13.3
Total	161	100	120	100
Mandatory Courses	4		4	

LEGEND

	Courses exempted for Lateral Entry students
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