



# SAVEETHA ENGINEERING COLLEGE

**AUTONOMOUS**


Affiliated to Anna University | Approved by AICTE

**REGULATIONS 2019**  
**FLEXIBLE CHOICE BASED CREDIT SYSTEM**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**B.E. Electronics and Communication Engineering**  
**CURRICULUM**

S.No.	Category	Course Code	Course Title	Contact Hours per Week			Credits	Prerequisite
				L	T	P		
1	HS	<a href="#">19EN101</a>	Communicative English	3	0	2	4	-
2	HS	<a href="#">19EN102</a>	Technical English	3	0	2	4	-
3	HS	<a href="#">19MS153</a>	Management and Quality Principles for Engineering	3	0	0	3	-
4	BS	<a href="#">19MA202</a>	Calculus and Laplace Transforms	3	1	0	4	-
5	BS	<a href="#">19PH201</a>	Basics of Engineering Physics (**)	3	0	0	3	-
6	BS	<a href="#">19CY205</a>	Principles of Chemistry in Engineering	3	0	2	4	-
7	BS	<a href="#">19MA204</a>	Complex Variables and Ordinary Differential Equations	3	1	0	4	19MA202
8	BS	<a href="#">19MA213</a>	Linear Algebra and Numerical Methods	3	1	0	4	19MA202
9	BS	<a href="#">19PH210</a>	Solid State Physics (**)	3	0	2	4	19PH201
10	BS	<a href="#">19MA217</a>	Random Processes and Statistics	3	1	0	4	19MA202
11	BS	<a href="#">19PH215</a>	Physics of Solid State Materials (***)	3	0	2	4	-
12	ES	<a href="#">19CS302</a>	Programming in C	2	0	4	4	-
13	ES	<a href="#">19CS303</a>	Fundamentals of Data Structures using Python	2	0	2	3	-
14	ES	<a href="#">19ME302</a>	Engineering Drawing	2	0	2	3	-
15	ES	<a href="#">19EE304</a>	Basic Electrical and Instrumentation Engineering (**)	3	0	0	3	-
16	ES	<a href="#">19EE307</a>	Basic Electrical Engineering (***)	2	0	2	3	-
17	ES	<a href="#">19EC301</a>	Electric Circuit Analysis	3	0	2	4	-
18	ES	<a href="#">19EC302</a>	Electronic Devices	3	0	2	4	-
19	ES	<a href="#">19EC303</a>	Digital Principles and System Design	3	0	2	4	-
20	ES	<a href="#">19EC304</a>	Electromagnetic Fields	3	0	0	3	-
21	PC	<a href="#">19EC401</a>	Electronic Circuits I	2	0	2	3	19EC302
22	PC	<a href="#">19EC402</a>	Signals and Systems	3	0	0	3	19MA202/ 19MA204
23	PC	<a href="#">19EC403</a>	Communication Theory	3	0	2	4	19EC402
24	PC	<a href="#">19EC404</a>	Electronic Circuits II	3	0	2	4	19EC401
25	PC	<a href="#">19EC405</a>	Linear Integrated Circuits	3	0	2	4	19EC302/ 19EC308
26	PC	<a href="#">19EE312</a>	Control System Engineering	3	0	0	3	19EC402
27	PC	<a href="#">19EC406</a>	Digital Communication	3	0	2	4	19EC403
28	PC	<a href="#">19EC407</a>	Transmission Lines	3	0	0	3	19EC304
29	PC	<a href="#">19EC408</a>	Microprocessor and Microcontroller	3	0	2	4	19EC303
30	PC	<a href="#">19EC409</a>	Discrete Time Signal Processing	3	0	2	4	19EC402
31	PC	<a href="#">19EC410</a>	VLSI Design	3	0	2	4	19EC303
32	PC	<a href="#">19EC411</a>	Antennas and Microwave Engineering	3	0	2	4	19EC407
33	PC	<a href="#">19EC412</a>	Communication Networks	3	0	2	4	19EC406
34	PC	<a href="#">19EC413</a>	Wireless Communication	3	0	0	3	19EC406
35	PC	<a href="#">19EC414</a>	Embedded Systems	2	0	2	3	19EC408
36	PC	<a href="#">19EC415</a>	Optical Communication and Networks	3	0	2	4	19EC406
37	PE	<a href="#">19EC501</a>	Multimedia Compression Techniques	3	0	0	3	19EC409
38	PE	<a href="#">19EC502</a>	Speech Processing	3	0	0	3	19EC409/ 19BM408

39	PE	<a href="#">19EC503</a>	Digital Image Processing	3	0	0	3	19EC409/ 19EI403/ 19EC416
40	PE	<a href="#">19EC504</a>	DSP Processors	3	0	0	3	19EC409
41	PE	<a href="#">19EC505</a>	Bio Signal Processing	3	0	0	3	19EC409
42	PE	<a href="#">19CS501</a>	Machine Learning	3	0	0	3	19MA211/ 19MA212/ 19MA217/ 19MA218/ 19MA207
43	PE	<a href="#">19CS524</a>	Deep Learning	3	0	0	3	19CS501
44	PE	<a href="#">19CS526</a>	R Programming	2	0	2	3	19CS303/ 19CS301
45	PE	<a href="#">19CS519</a>	Data Science	3	0	0	3	19CS301/ 19CS501
46	PE	<a href="#">19CS520</a>	Big Data Analytics	3	0	0	3	19CS411/ 19CS519
47	PE	<a href="#">19CS413</a>	Artificial Intelligence	3	0	2	4	-
48	PE	<a href="#">19CS515</a>	Block Chain Architecture and its Use Cases	3	0	0	3	19CS412/ 19EC506/ 19EC306
49	PE	<a href="#">19CS529</a>	Quantum Computing	3	0	0	3	19CS301/ 19CS303
50	PE	<a href="#">19CS531</a>	Virtual Reality	3	0	0	3	19CS401/ 19CS301/ 19CS303
51	PE	<a href="#">19EC506</a>	Essentials of Cryptography and Network Security	3	0	0	3	19EC412
52	PE	<a href="#">19EC507</a>	Wireless Networks	3	0	0	3	19EC412
53	PE	<a href="#">19EC508</a>	Ad hoc and Wireless Sensor Networks	3	0	0	3	19EC412/ 19CS406
54	PE	<a href="#">19EC510</a>	Peer-to-Peer Computing	3	0	0	3	19EC412
55	PE	<a href="#">19CS530</a>	Cyber Security	3	0	0	3	19CS412/ 19EC506/19EC306
56	PE	<a href="#">19EC511</a>	Satellite Communication	3	0	0	3	19EC406
57	PE	<a href="#">19EC512</a>	Electromagnetic Interference and Compatibility	3	0	0	3	19EC411
58	PE	<a href="#">19EC513</a>	Cognitive Radio	3	0	0	3	19EC413
59	PE	<a href="#">19EC514</a>	Radar and Navigational Aids	3	0	0	3	19EC406
60	PE	<a href="#">19EC515</a>	RF Circuit Design	3	0	0	3	19EC411
61	PE	<a href="#">19EC516</a>	HDL Programming	3	0	0	3	19EC303
62	PE	<a href="#">19EC517</a>	Low Power VLSI Design	3	0	0	3	19EC410
63	PE	<a href="#">19EC518</a>	CMOS Analog IC Design	3	0	0	3	19EC410
64	PE	<a href="#">19EC519</a>	Testing of VLSI Circuits	3	0	0	3	19EC410
65	PE	<a href="#">19EC520</a>	Introduction to MEMS and NEMS	3	0	0	3	-
66	OE	<a href="#">19AG601</a>	Principles of Crop Production	2	0	2	3	-
67	OE	<a href="#">19AG514</a>	Food Packaging Technology	2	0	2	3	-
68	OE	<a href="#">19AG509</a>	Human Engineering and Safety	2	0	2	3	-
69	OE	<a href="#">19AG424</a>	Remote Sensing and GIS Applications	2	0	2	3	-
70	OE	<a href="#">19AG421</a>	Dairy and Food Engineering	2	0	2	3	-
71	OE	<a href="#">19BM601</a>	Fundamentals of Nutrition	3	0	0	3	-
72	OE	<a href="#">19BM602</a>	Biomedical Waste Management	3	0	0	3	-
73	OE	<a href="#">19BM603</a>	Healthcare Technologies	3	0	0	3	-
74	OE	<a href="#">19BM604</a>	Prosthetic Engineering	3	0	0	3	-
75	OE	<a href="#">19BM605</a>	Medical Devices	3	0	0	3	-
76	OE	<a href="#">19BM606</a>	Biology for Engineers	3	0	0	3	-
77	OE	<a href="#">19CE510</a>	Integrated Water Resources Management	3	0	0	3	-
78	OE	<a href="#">19CE521</a>	Air Pollution Engineering	3	0	0	3	-
79	OE	<a href="#">19CE525</a>	Traffic Engineering	3	0	0	3	-
80	OE	<a href="#">19CE527</a>	Construction Engineering and Occupational Safety	3	0	0	3	-
81	OE	<a href="#">19CE528</a>	Contract Laws and Regulations	3	0	0	3	-
82	OE	<a href="#">19CS601</a>	Database Management Systems	3	0	0	3	-

83	OE	<a href="#">19CS602</a>	Business Intelligence and its Applications	3	0	0	3	-
84	OE	<a href="#">19CS603</a>	Object Oriented Analysis and Design	3	0	0	3	-
85	OE	<a href="#">19CS516</a>	Software Testing and Quality Assurance	3	0	0	3	-
86	OE	<a href="#">19CS525</a>	Industrial IOT	3	0	0	3	-
87	OE	<a href="#">19EE601</a>	Embedded Based Product Design and Development	3	0	0	3	-
88	OE	<a href="#">19EE602</a>	Electrical Safety	3	0	0	3	-
89	OE	<a href="#">19EE603</a>	Renewable Energy Sources	3	0	0	3	-
90	OE	<a href="#">19EE604</a>	Fundamentals of Electric Power Utilization	3	0	0	3	-
91	OE	<a href="#">19EE605</a>	Industrial Automation and Robotics	3	0	0	3	-
92	OE	<a href="#">19EE606</a>	Solar Photovoltaic Energy	2	0	2	3	-
93	OE	<a href="#">19EI601</a>	Electrical and Electronic Measurements	3	0	0	3	-
94	OE	<a href="#">19EI602</a>	Instrumentation and Control Systems	3	0	0	3	-
95	OE	<a href="#">19EI504</a>	Environmental Instrumentation	3	0	0	3	-
96	OE	<a href="#">19EI508</a>	SCADA Systems and Applications	3	0	0	3	-
97	OE	<a href="#">19EI511</a>	Telemetry and Tele Control	3	0	0	3	-
98	OE	<a href="#">19BY201</a>	Introduction to Biology	2	0	0	2	-
99	OE	<a href="#">19ME505</a>	Computer Aided Design	2	0	2	3	-
100	OE	<a href="#">19ME511</a>	Automobile Engineering	2	0	2	3	-
101	OE	<a href="#">19ME524</a>	Sustainable and Green Manufacturing	2	0	2	3	-
102	OE	<a href="#">19ME529</a>	Process Planning and Cost Estimation	2	0	2	3	-
103	OE	<a href="#">19ME531</a>	Intellectual Property Rights	2	0	2	3	-
104	OE	<a href="#">19ME601</a>	Mechatronics and Robotics	2	0	2	3	-
105	OE	<a href="#">19ME602</a>	Hydraulic Drives and Controls	2	0	2	3	-
106	OE	<a href="#">19ME533</a>	3D Printing Processes	3	0	2	4	-
107	OE	<a href="#">19MD501</a>	Tele Health Technology	3	0	0	3	-
108	OE	<a href="#">19MD509</a>	Bio MEMS	3	0	0	3	-
109	OE	<a href="#">19MD512</a>	Medical Wearable Systems	3	0	0	3	-
110	OE	<a href="#">19MD601</a>	Biomedical Sensors and Measurements	3	0	0	3	-
111	OE	<a href="#">19MD602</a>	Biomedical Optics	3	0	0	3	-
112	OE	<a href="#">19CH503</a>	Energy Technology	3	0	0	3	-
113	OE	<a href="#">19CH505</a>	Green Technology	3	0	0	3	-
114	OE	<a href="#">19CH511</a>	Food Technology	3	0	0	3	-
115	OE	<a href="#">19CH512</a>	Drugs and Pharmaceutical Technology	3	0	0	3	-
116	OE	<a href="#">19CH516</a>	Corrosion Technology	3	0	0	3	-
117	OE	<a href="#">19IT517</a>	Data Security	3	0	0	3	-
118	OE	<a href="#">19IT518</a>	Game Theory	3	0	0	3	-
119	OE	<a href="#">19IT519</a>	Data Analysis using R Programming	3	0	0	3	-
120	OE	<a href="#">19IT520</a>	Linux Fundamentals	3	0	0	3	-
121	OE	<a href="#">19IT521</a>	Internet Technologies	3	0	0	3	-
122	OE	<a href="#">19IT522</a>	Fundamentals of Databases	3	0	0	3	-
123	OE	<a href="#">19EN601</a>	Creative Writing	2	0	0	2	-
124	OE	<a href="#">19EN602</a>	English through Media	2	0	0	2	-
125	OE	<a href="#">19EN603</a>	Introduction to Design	0	0	4	2	-
126	OE	<a href="#">19EN604</a>	Design Thinking	2	0	0	2	-
127	OE	<a href="#">19EN605</a>	Modern Trends in Physical Education and Sports Sciences	0	0	4	2	-
128	OE	<a href="#">19EN606</a>	Psychology for Professionals	2	0	0	2	-
129	OE	<a href="#">19EN607</a>	Heritage Studies	0	0	4	2	-
130	OE	<a href="#">19EN608</a>	Mime Theatre Art	0	0	4	2	-
131	OE	<a href="#">19EN609</a>	Gender Sensitization	2	0	0	2	-
132	OE	<a href="#">19EN610</a>	French Basic	0	0	4	2	-
133	OE	<a href="#">19EN611</a>	French Advanced	0	0	4	2	19EN610
134	OE	<a href="#">19EN612</a>	German Basic	0	0	4	2	-

135	OE	<a href="#">19EN613</a>	German Advanced	0	0	4	2	19EN612
136	OE	<a href="#">19EN614</a>	Japanese Basic	0	0	4	2	-
137	OE	<a href="#">19EN615</a>	Japanese Advanced	0	0	4	2	19EN614
138	OE	<a href="#">19EN616</a>	Yoga and Meditation	0	0	2	1	-
139	OE	<a href="#">19EN617</a>	Product Design for Future	0	0	4	2	-
140	OE	<a href="#">19EN618</a>	Indian Astronomy and Mathematics	2	0	0	2	-
141	OE	<a href="#">19EN619</a>	Inventions and Discoveries	2	0	0	2	-
142	OE	<a href="#">19EN620</a>	Mandarin	0	0	4	2	-
143	OE	<a href="#">19EN621</a>	Spanish Basic	0	0	4	2	-
144	OE	<a href="#">19EN622</a>	Spanish Advanced	0	0	4	2	19EN621
145	OE	<a href="#">19EN623</a>	Dream, Draw and Create	0	0	4	2	-
146	OE	<a href="#">19MA601</a>	Resource Management Techniques	3	0	0	3	-
147	OE	<a href="#">19MA602</a>	Statistics for Engineers	3	0	0	3	-
148	OE	19EI603	Introduction to Industry 4.0 and Industrial Internet of Things(NPTEL)					
149	OE	19EC607	Modern Digital Communication Techniques (NPTEL)	0	0	0	2	-
150	OE	19EC608	Digital IC Design(NPTEL)	0	0	0	2	-
151	OE	19EC610	Programming in JAVA(NPTEL)	0	0	0	2	-
152	OE	19EC611	Introduction to Machine Learning(NPTEL)	0	0	0	2	-
153	OE	19EC612	Cryptography and network security(NPTEL)	0	0	0	2	-
154	OE	19EC613	An Introduction to Programming through C++ (NPTEL)	0	0	0	2	-
155	OE	19EC616	Data Analytics with Python(NPTEL)	0	0	0	2	-
156	OE	19EC619	Computer Network and Internet Protocol (NPTEL)	0	0	0	2	-
157	OE	19EC620	Foundations of Cryptography(NPTEL)	0	0	0	2	-
158	OE	19EC621	Introduction to Internet of things(NPTEL)	0	0	0	2	-
159	OE	19EC622	Deep Learning (NPTEL)	0	0	0	2	-
160	OE	19EC623	The Joy of Computing using Python(NPTEL)	0	0	0	2	-
161	OE	19EC624	Sensors and Actuators(NPTEL)	0	0	0	2	-
162	OE	19EC625	Introduction to Robotics(NPTEL)	0	0	0	2	-
163	OE	19EC626	Business Analytics and Data Mining Modeling using R (NPTEL)	0	0	0	2	-
164	OE	19EC627	Cloud Computing (NPTEL)	0	0	0	2	-
165	OE	19EC628	Blockchain and its Applications (NPTEL)	0	0	0	2	-
166	OE	19EC629	Fuzzy Sets, Logic and Systems and Applications (NPTEL)	0	0	0	2	-
167	OE	19EC630	GPU Architectures and Programming (NPTEL)	0	0	0	2	-
168	OE	19EC631	Online Privacy (NPTEL)	0	0	0	2	-
169	OE	19EC632	Computational Geometry (NPTEL)	0	0	0	2	-
170	OE	19EC633	Programming in Modern C++ (NPTEL)	0	0	0	2	-
171	OE	19EC634	Hardware Security (NPTEL)	0	0	0	2	-
172	OE	19EC635	Spread Spectrum Communications and Jamming (NPTEL)	0	0	0	2	-
173	OE	19EC636	Multirate DSP (NPTEL)	0	0	0	2	-
174	OE	19EC637	Design and Analysis of VLSI Subsystems (NPTEL)	0	0	0	2	-
175	OE	19EC638	Object Oriented System Development Using UML, Java and Patterns (NPTEL)	0	0	0	2	-
176	OE	19EC639	Fundamental of Power Electronics (NPTEL)	0	0	0	2	-
177	OE	19EC640	Applied Linear Algebra (NPTEL)	0	0	0	2	-
178	OE	19CS607	Reinforcement Learning (NPTEL)					
179	OE	19IT603	Ethical Hacking (NPTEL)					
180	EEC	19EC701	Mini Project	0	0	4	2	-
181	EEC	19EC702	Project Work Phase I	0	0	4	2	-

182	EEC	19EC703	Project Work Phase II	0	0	12	6	-
183	EEC	<a href="#">19EY701</a>	Soft Skills	0	0	2	1	-
184	EEC	<a href="#">19EY702</a>	Creative Skills for Communication	0	0	2	1	-
185	EEC	<a href="#">19EY703</a>	System of Numerical and Logical Terminologies	0	0	2	1	-
186	EEC	<a href="#">19EY704</a>	Advanced Quantitative and Logical Reasoning	0	0	2	1	-
187	EEC	<a href="#">19EY705</a>	Employment Enhancement Skills	0	0	2	1	-
188	EEC	<a href="#">19EY706</a>	Company Specific Assessments for Employability	0	0	2	1	-
189	MC	<a href="#">19MC801</a>	Professional Ethics	3	0	0	0	-
190	MC	<a href="#">19MC802</a>	Environmental Science	3	0	0	0	-
191	MC	<a href="#">19MC803</a>	Constitution of India	3	0	0	0	-
192	MC	19MC804	Internship/Entrepreneurship/Consultancy	0	0	0	2	-
193	MC	19MC805	Inplant Training	0	0	0	1	-
194	MC	19MC806	Paper Publication	0	0	0	1	-
195	MC	19MC807	National Service Scheme	0	0	0	0	-
196	MC	19MC808	National Sports Organization	0	0	0	0	-
197	MC	19MC809	Youth Red Cross	0	0	0	0	-

CREDIT SUMMARY				
CATEGORY	CREDITS			
	2019-2023 Batch		2020-2024 Batch Onwards	
	Regular	LE	Regular	LE
Humanities and Social Science Courses	11	3	11	3
Basic Science Courses	27	8	24	8
Engineering Science Courses	28	14	28	14
Professional Core Courses	58	58	58	58
Professional Elective Courses	12	12	15	15
Open Elective Courses	12	12	12	12
Employability Enhancement Courses	16	16	16	16
<b>Total</b>	<b>164</b>	<b>123</b>	<b>164</b>	<b>125</b>
Mandatory Courses	4	4	4	4

**LEGEND**

*	Not Mandatory for the award of degree
**	2019 Batch only
***	2020 Batch onwards
	Courses exempted for Lateral Entry students