



# SAVEETHA ENGINEERING COLLEGE

**AUTONOMOUS**


Affiliated to Anna University | Approved by AICTE

**REGULATIONS 2019**  
**FLEXIBLE CHOICE BASED CREDIT SYSTEM**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**B.Tech., Artificial Intelligence and Machine Learning**  
**CURRICULUM**

S.No.	Category	Course Code	Course Title	Contact Hours per Week			Credits	Prerequisite
				L	T	P		
1	HS	<a href="#">19EN104</a>	Technical Writing	3	0	0	3	-
2	HS	<a href="#">19EN105</a>	Public Speaking	0	0	6	3	-
3	HS	<a href="#">19EN101</a>	Communicative English	3	0	2	4	-
4	HS	<a href="#">19MS154</a>	Basic Financial Accounting	3	0	0	3	-
5	HS	<a href="#">19MS156</a>	Human Resource Management and Team Building	3	0	0	3	-
6	HS	<a href="#">19MS155</a>	Stock Market and Company Operations	3	0	0	3	
7	BS	<a href="#">19MA220</a>	Mathematics for Artificial Intelligence	4	0	0	4	
8	BS	<a href="#">19MA221</a>	Linear Algebra Laboratory	0	0	4	2	
9	BS	<a href="#">19CY205</a>	Principles of Chemistry in Engineering	3	0	2	4	
10	BS	<a href="#">19PH214</a>	Physics for Quantum Computing	3	0	0	3	
11	BS	<a href="#">19MA222</a>	Probability And Queueing Models	3	0	2	4	
12	BS	<a href="#">19MA219</a>	Transforms And Its Applications	3	1	0	4	
13	BS	<a href="#">19MA211</a>	Statistics And Numerical Methods	3	0	2	4	
14	ES	<a href="#">19AI301</a>	Python Programming	2	0	2	3	
15	ES	<a href="#">19AI302</a>	Engineering Design And Modelling	0	0	6	3	
16	ES	<a href="#">19AI303</a>	Engineering Mechanics and Product Development	2	0	2	3	
17	ES	<a href="#">19AI306</a>	Object Oriented Programming using C++	2	0	2	3	19AI304
18	ES	<a href="#">19AI307</a>	Object Oriented Programming using Java	2	0	2	3	19AI304
19	ES	<a href="#">19AI308</a>	Object Oriented Programming using C#	2	0	2	3	19AI304
20	ES	<a href="#">19EE404</a>	Digital Electronics	3	0	2	4	
21	ES	<a href="#">19EE305</a>	Basic Electrical, Electronics And Measurement Engineering	2	0	2	3	
22	ES	<a href="#">19EE309</a>	Programming Microcontrollers	2	0	2	3	
23	ES	<a href="#">19AI304</a>	Fundamentals of C Programming	2	0	2	3	
24	ES	<a href="#">19AI305</a>	Advanced C Programming	2	0	2	3	19AI304
25	PC	<a href="#">19AI401</a>	Fundamentals Of Web Technology	3	0	0	3	
26	PC	<a href="#">19AI402</a>	Web Technology Laboratory	0	0	4	2	
27	PC	<a href="#">19CS405</a>	Operating System	3	0	2	4	
28	PC	<a href="#">19CS406</a>	Computer Networks	3	0	2	4	
29	PC	<a href="#">19CS404</a>	Database Management System and Its Applications	3	0	2	4	19AI301/19AI304/19CS301/19CS302/19CS303
30	PC	<a href="#">19AI408</a>	Data Structures	2	0	2	3	19AI305
31	PC	<a href="#">19AI404</a>	Analysis Of Algorithms	2	0	2	3	19AI408
32	PC	<a href="#">19AI405</a>	Fundamentals Of Artificial Intelligence	2	0	2	3	19AI301/19MA220
33	PC	<a href="#">19CD404</a>	Artificial Intelligence for Games	2	0	2	3	
34	PC	<a href="#">19AI406</a>	Digital Image Processing Techniques	2	0	2	3	19AI301
35	PC	<a href="#">19AI409</a>	Applied Artificial Intelligence	2	0	2	3	19AI301/19MA220/19AI405/19CS301
36	PC	<a href="#">19AI410</a>	Introduction to Machine Learning	2	0	2	3	-
37	PC	<a href="#">19AM401</a>	Time Series Analysis and Forecasting	3	0	2	4	
38	PC	<a href="#">19AI411</a>	Neural Networks	2	0	2	3	-
39	PC	<a href="#">19AI505</a>	Reinforcement Learning	2	0	2	3	19AI301/19MA218/19MA211/19AI410/19CS301

40	PC	<a href="#">19AI413</a>	Deep Learning and its Applications	2	0	2	3	-
41	PE	<a href="#">19AI501</a>	Applications of AI	2	0	2	3	-
42	PE	<a href="#">19AI502</a>	Applied Natural Language Processing	2	0	2	3	-
43	PE	<a href="#">19AI503</a>	Computer Vision	2	0	2	3	19AI406/19AI301/19CS301
44	PE	<a href="#">19AI504</a>	Mobile Robotics	2	0	2	3	-
45	PE	<a href="#">19AI505</a>	Reinforcement Learning	2	0	2	3	19AI301/19MA218/19MA211/19AI410/19CS301
46	PE	<a href="#">19AI506</a>	Speech Processing	2	0	2	3	-
47	PE	<a href="#">19AI507</a>	Special Topics In Artificial Intelligence	2	0	2	3	-
48	PE	<a href="#">19AI508</a>	Soft Computing	2	0	2	3	-
49	PE	<a href="#">19AI509</a>	Concepts of Virtual and Augmented Reality	2	0	2	3	-
50	PE	<a href="#">19AI511</a>	Scientific and Engineering Data Visualization	2	0	2	3	-
51	PE	<a href="#">19AI512</a>	NoSQL Database Design	2	0	2	3	19AI301/19CS301
52	PE	<a href="#">19AI513</a>	Game Programming	2	0	4	4	19AI306/19CS401
53	PE	<a href="#">19AI514</a>	Self Driving Car	2	0	4	4	19AI301/19AI304/19CS301/19AI406/19AI410
54	PE	<a href="#">19AI515</a>	Smart Manufacturing Technology	2	0	2	3	-
55	PE	<a href="#">19CS523</a>	Information Retrieval	3	0	0	3	19AI410/19AI405/19CS501/19CS413
56	PE	<a href="#">19AI516</a>	Bigdata Analytics	2	0	2	3	19AI408/19CS410
57	PE	<a href="#">19AI517</a>	Business Analytics	2	0	2	3	-
58	PE	<a href="#">19AI518</a>	Cognitive Systems	3	0	0	3	-
59	PE	<a href="#">19AI519</a>	Distributed Database	3	0	0	3	19CS404
60	PE	<a href="#">19AI520</a>	Data Warehousing And Data Mining	2	0	2	3	-
61	PE	<a href="#">19AI521</a>	Expert Systems	3	0	0	3	-
62	PE	<a href="#">19AI522</a>	Knowledge Engineering	3	0	0	3	19AI408/19CS410
63	PE	<a href="#">19AI523</a>	Mobile Database	3	0	0	3	-
64	PE	<a href="#">19AI524</a>	Multimedia Database	3	0	0	3	19AI408 / 19CS410
65	PE	<a href="#">19AI525</a>	Video Processing	2	0	2	3	19AI301 / 19CS301
66	PE	<a href="#">19AM501</a>	Machine Learning For Bioinformatics	3	0	0	3	19AI410
67	PE	<a href="#">19AM502</a>	Genetic Algorithms	2	0	2	3	-
68	PE	<a href="#">19AM503</a>	Data Modeling	3	0	0	3	-
69	PE	<a href="#">19AM504</a>	Brain Computer Interaction	3	0	0	3	-
70	PE	<a href="#">19AI526</a>	Database Security and Access Control	2	0	2	3	19AI527
71	PE	<a href="#">19AI527</a>	Security Assessment and Risk Analysis	3	0	2	4	-
72	PE	<a href="#">19CS407</a>	Theory of Computation	3	0	0	3	19MA220/19MA206
73	PE	<a href="#">19CS408</a>	Software Engineering	3	0	2	4	-
74	PE	<a href="#">19CS409</a>	Compiler Design	3	0	2	4	-
75	PE	<a href="#">19AI528</a>	Advanced Graph Theory and Applications	2	0	2	3	19AI404/19CS402
76	PE	<a href="#">19AI529</a>	Advanced Data Structures	2	0	2	3	19AI408/19CS401
77	PE	<a href="#">19AI530</a>	Control of Robotic Systems	2	0	2	3	-
78	PE	<a href="#">19AI531</a>	Cryptography and Security	2	0	2	3	-
79	PE	<a href="#">19AI532</a>	Information Theory for Cyber Security	2	0	2	3	-
80	PE	<a href="#">19AI533</a>	Introduction to Robotics	2	0	2	3	-
81	PE	<a href="#">19AI534</a>	Kinematics and Dynamics of Robots	2	0	2	3	-
82	PE	<a href="#">19AI535</a>	Robotic Sensors	2	0	2	3	-
83	PE	<a href="#">19AI536</a>	Steganography And Digital Watermarking	2	0	2	3	-
84	PE	<a href="#">19AI537</a>	Computer Graphics For Virtual Reality	2	0	2	3	-
85	PE	<a href="#">19AI538</a>	Mathematical Modelling and Computer Aided Engineering	2	0	2	3	-

86	PE	<a href="#">19AI539</a>	Mobile User Interface Development	2	0	2	3	19AI306/19AI307/19AI308/19CS401
87	PE	<a href="#">19AI540</a>	Programming Mobile Devices	2	0	2	3	19AI306/19AI307/19AI308/19CS401
88	PE	<a href="#">19AI541</a>	Cloud Computing	3	0	2	4	19AI401/19CS406
89	PE	<a href="#">19AI542</a>	Agile Software Development	3	0	2	4	19AI301/19AI304/19CS301
90	PE	<a href="#">19AI543</a>	Software Testing	2	0	2	3	19AI301/19AI304
91	PE	<a href="#">19AI544</a>	Virtualization And Containerization	2	0	2	3	19AI301/19CS405/19CS406
92	PE	<a href="#">19AI545</a>	Modern Web Application Development	2	0	2	3	19AI306/19AI307/19AI308/19CS410
93	PE	<a href="#">19AI546</a>	Web Server Programming	2	0	2	3	19AI306/19AI307/19AI308/19CS410
94	PE	<a href="#">19AI547</a>	Blockchain for Business	2	0	2	3	19AI301/19AI304/19CS301
95	PE	<a href="#">19AI407</a>	Parallel Computing Architecture	3	0	2	4	-
96	PE	<a href="#">19AM514</a>	Motion Planning Techniques	2	0	2	3	
97	PE	<a href="#">19AM505</a>	Statistical Learning Theory	2	0	2	3	
98	PE	<a href="#">19AM506</a>	Sensors And Actuators For Iot	2	0	2	3	
99	PE	<a href="#">19AM507</a>	Security And Trust In Iot	2	0	2	3	
100	PE	<a href="#">19AM508</a>	Introduction To Iot	3	0	0	3	
101	PE	<a href="#">19AM509</a>	Industrial Internet Of Things	2	0	2	3	
102	PE	<a href="#">19AM510</a>	Software For Embedded Systems	2	0	2	3	
103	PE	<a href="#">19AM511</a>	Iot Architecture And Protocols	3	0	0	3	
104	PE	<a href="#">19AM512</a>	Arduino For Iot	2	0	2	3	
105	PE	<a href="#">19AM513</a>	Raspberry Pi For Iot	2	0	2	3	
106	PE	<a href="#">19AM515</a>	Advanced Java Programming	2	0	2	3	
107	OE	<a href="#">19AG601</a>	Principles of Crop Production	2	0	2	3	-
108	OE	<a href="#">19AG514</a>	Food Packaging Technology	2	0	2	3	-
109	OE	<a href="#">19AG509</a>	Human Engineering and Safety	2	0	2	3	-
110	OE	<a href="#">19AG424</a>	Remote Sensing and GIS Applications	2	0	2	3	-
111	OE	<a href="#">19AG421</a>	Dairy and Food Engineering	2	0	2	3	-
112	OE	<a href="#">19BM601</a>	Fundamentals of Nutrition	3	0	0	3	-
113	OE	<a href="#">19BM602</a>	Biomedical Waste Management	3	0	0	3	-
114	OE	<a href="#">19BM603</a>	Healthcare Technologies	3	0	0	3	-
115	OE	<a href="#">19BM604</a>	Prosthetic Engineering	3	0	0	3	-
116	OE	<a href="#">19BM605</a>	Medical Devices	3	0	0	3	-
117	OE	<a href="#">19BM606</a>	Biology for Engineers	3	0	0	3	-
118	OE	<a href="#">19CE510</a>	Integrated Water Resources Management	3	0	0	3	-
119	OE	<a href="#">19CE521</a>	Air Pollution Engineering	3	0	0	3	-
120	OE	<a href="#">19CE525</a>	Traffic Engineering	3	0	0	3	-
121	OE	<a href="#">19CE527</a>	Construction Engineering and Occupational Safety	3	0	0	3	-
122	OE	<a href="#">19CE528</a>	Contract Laws and Regulations	3	0	0	3	-
123	OE	<a href="#">19CS601</a>	Database Management Systems	3	0	0	3	-
124	OE	<a href="#">19CS602</a>	Business Intelligence and its Applications	3	0	0	3	-
125	OE	<a href="#">19CS603</a>	Object Oriented Analysis and Design	3	0	0	3	-
126	OE	<a href="#">19CS516</a>	Software Testing and Quality Assurance	3	0	0	3	-
127	OE	<a href="#">19CS525</a>	Industrial IOT	3	0	0	3	-
128	OE	<a href="#">19EE601</a>	Embedded Based Product Design and Development	3	0	0	3	-
129	OE	<a href="#">19EE602</a>	Electrical Safety	3	0	0	3	-
130	OE	<a href="#">19EE603</a>	Renewable Energy Sources	3	0	0	3	-
131	OE	<a href="#">19EE604</a>	Fundamentals of Electric Power Utilization	3	0	0	3	-
132	OE	<a href="#">19EE605</a>	Industrial Automation and Robotics	3	0	0	3	-
133	OE	<a href="#">19EE606</a>	Solar Photovoltaic Energy	2	0	2	3	-
134	OE	<a href="#">19EC601</a>	Electronic Packaging	3	0	0	3	-
135	OE	<a href="#">19EC602</a>	Introduction to Micro Electro Mechanical Systems	3	0	0	3	-

136	OE	<a href="#">19EC603</a>	Fuzzy Logic Systems and ANN	3	0	0	3	-
137	OE	<a href="#">19EC604</a>	Consumer Electronics	3	0	0	3	-
138	OE	<a href="#">19EC605</a>	Electronic System Design	3	0	0	3	-
139	OE	<a href="#">19EC606</a>	Drones for Agriculture	3	0	0	3	-
140	OE	<a href="#">19EI601</a>	Electrical and Electronic Measurements	3	0	0	3	-
141	OE	<a href="#">19EI602</a>	Instrumentation and Control Systems	3	0	0	3	-
142	OE	<a href="#">19EI504</a>	Environmental Instrumentation	3	0	0	3	-
143	OE	<a href="#">19EI508</a>	SCADA Systems and Applications	3	0	0	3	-
144	OE	<a href="#">19EI511</a>	Telemetry and Tele Control	3	0	0	3	-
145	OE	<a href="#">19BY201</a>	Introduction to Biology	2	0	0	2	-
146	OE	<a href="#">19ME505</a>	Computer Aided Design	2	0	2	3	-
147	OE	<a href="#">19ME511</a>	Automobile Engineering	2	0	2	3	-
148	OE	<a href="#">19ME524</a>	Sustainable and Green Manufacturing	2	0	2	3	-
149	OE	<a href="#">19ME529</a>	Process Planning and Cost Estimation	2	0	2	3	-
150	OE	<a href="#">19ME531</a>	Intellectual Property Rights	2	0	2	3	-
151	OE	<a href="#">19ME601</a>	Mechatronics and Robotics	2	0	2	3	-
152	OE	<a href="#">19ME602</a>	Hydraulic Drives and Controls	2	0	2	3	-
153	OE	<a href="#">19ME533</a>	3D Printing Processes	3	0	2	4	-
154	OE	<a href="#">19MD501</a>	Tele Health Technology	3	0	0	3	-
155	OE	<a href="#">19MD509</a>	Bio MEMS	3	0	0	3	-
156	OE	<a href="#">19MD512</a>	Medical Wearable Systems	3	0	0	3	-
157	OE	<a href="#">19MD601</a>	Biomedical Sensors and Measurements	3	0	0	3	-
158	OE	<a href="#">19MD602</a>	Biomedical Optics	3	0	0	3	-
159	OE	<a href="#">19CH503</a>	Energy Technology	3	0	0	3	-
160	OE	<a href="#">19CH505</a>	Green Technology	3	0	0	3	-
161	OE	<a href="#">19CH511</a>	Food Technology	3	0	0	3	-
162	OE	<a href="#">19CH512</a>	Drugs and Pharmaceutical Technology	3	0	0	3	-
163	OE	<a href="#">19CH516</a>	Corrosion Technology	3	0	0	3	-
164	OE	<a href="#">19IT517</a>	Data Security	3	0	0	3	-
165	OE	<a href="#">19IT518</a>	Game Theory	3	0	0	3	-
166	OE	<a href="#">19IT519</a>	Data Analysis using R Programming	3	0	0	3	-
167	OE	<a href="#">19IT520</a>	Linux Fundamentals	3	0	0	3	-
168	OE	<a href="#">19IT521</a>	Internet Technologies	3	0	0	3	-
169	OE	<a href="#">19IT522</a>	Fundamentals of Databases	3	0	0	3	-
170	OE	<a href="#">19EN601</a>	Creative Writing	2	0	0	2	-
171	OE	<a href="#">19EN602</a>	English through Media	2	0	0	2	-
172	OE	<a href="#">19EN603</a>	Introduction to Design	0	0	4	2	-
173	OE	<a href="#">19EN604</a>	Design Thinking	2	0	0	2	-
174	OE	<a href="#">19EN605</a>	Modern Trends in Physical Education and Sports Sciences	0	0	4	2	-
175	OE	<a href="#">19EN606</a>	Psychology for Professionals	2	0	0	2	-
176	OE	<a href="#">19EN607</a>	Heritage Studies	0	0	4	2	-
177	OE	<a href="#">19EN608</a>	Mime Theatre Art	0	0	4	2	-
178	OE	<a href="#">19EN609</a>	Gender Sensitization	2	0	0	2	-
179	OE	<a href="#">19EN610</a>	French Basic	0	0	4	2	-
180	OE	<a href="#">19EN611</a>	French Advanced	0	0	4	2	19EN610
181	OE	<a href="#">19EN612</a>	German Basic	0	0	4	2	-
182	OE	<a href="#">19EN613</a>	German Advanced	0	0	4	2	19EN612
183	OE	<a href="#">19EN614</a>	Japanese Basic	0	0	4	2	-
184	OE	<a href="#">19EN615</a>	Japanese Advanced	0	0	4	2	19EN614
185	OE	<a href="#">19EN616</a>	Yoga and Meditation	0	0	2	1	-
186	OE	<a href="#">19EN617</a>	Product Design for Future	0	0	4	2	-
187	OE	<a href="#">19EN618</a>	Indian Astronomy and Mathematics	2	0	0	2	-
188	OE	<a href="#">19EN619</a>	Inventions and Discoveries	2	0	0	2	-
189	OE	<a href="#">19EN620</a>	Mandarin	0	0	4	2	-
190	OE	<a href="#">19EN621</a>	Spanish Basic	0	0	4	2	-
191	OE	<a href="#">19EN622</a>	Spanish Advanced	0	0	4	2	19EN621
192	OE	<a href="#">19EN623</a>	Dream, Draw and Create	0	0	4	2	-
193	OE	<a href="#">19MA601</a>	Resource Management Techniques	3	0	0	3	-

194	OE	<a href="#">19MA602</a>	Statistics for Engineers	3	0	0	3	-
195	OE		Online Course 1	0	0	0	2	-
196	OE		Online Course 2	0	0	0	2	-
197	EEC	<a href="#">19AI701</a>	Mini Project	0	0	2	1	-
198	EEC	<a href="#">19AI702</a>	Project Work I	0	0	6	3	-
199	EEC	<a href="#">19AI703</a>	Project Work II	0	0	12	6	-
200	EEC	<a href="#">19EY701</a>	Soft Skills	0	0	2	1	-
201	EEC	<a href="#">19EY702</a>	Creative Skills for Communication	0	0	2	1	-
202	EEC	<a href="#">19EY703</a>	System of Numerical and Logical Terminologies	0	0	2	1	-
203	EEC	<a href="#">19EY704</a>	Advanced Quantitative and Logical Reasoning	0	0	2	1	-
204	EEC	<a href="#">19EY705</a>	Employment Enhancement Skills	0	0	2	1	-
205	EEC	<a href="#">19EY706</a>	Company Specific Assessments for Employability	0	0	2	1	-
206	MC	<a href="#">19MC801</a>	Professional Ethics	3	0	0	0	-
207	MC	<a href="#">19MC802</a>	Environmental Science	3	0	0	0	-
208	MC	<a href="#">19MC803</a>	Constitution of India	3	0	0	0	-
209	MC	19MC804	Internship/Entrepreneurship/Consultancy	0	0	0	2	-
210	MC	19MC805	Inplant Training	0	0	0	1	-
		19MC806	Paper Publication	0	0	0	1	-
211	MC	19MC807	NSS				0	-
212	MC	19MC808	NSO				0	-
213	MC	19MC809	YRC				0	-

CREDIT SUMMARY				
CATEGORY	REGULAR		LATERAL ENTRY	
	Credits	Credit %	Credits	Credit%
Humanities and Social Science Courses	12	7.50	3	2.5
Basic Science Courses	25	15.63	18	15.0
Engineering Science Courses	28	17.50	12	10.0
Professional Core Courses	51	31.88	43	35.8
Professional Elective Courses	16	10.00	16	13.3
Open Elective Courses	12	7.50	12	10.0
Employability Enhancement Courses	16	10.00	16	13.3
<b>Total</b>	<b>160</b>	<b>100.00</b>	<b>120</b>	<b>100</b>
Mandatory Courses	4		4	

**LEGEND**

	Courses exempted for Lateral Entry students
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