

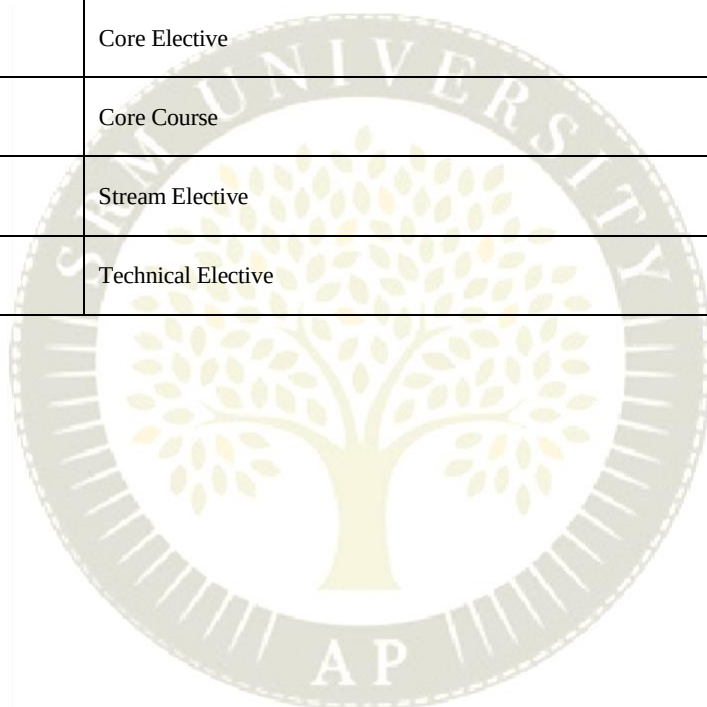
Department of Computer Science Engineering

B.Tech. Computer Science and Engineering Curriculum
(Applicable to the 2025 regulation)



School of Engineering and Sciences
SRM University AP, Andhra Pradesh

ABBREVIATIONS	
AEC	Ability Enhancement Courses
VAC	Value Added Courses
SEC	Skill Enhancement Courses
FIC	Foundation & Interdisciplinary Courses
OE	Open Elective
RDIP	Research / Design / Industrial Practice / Project / Thesis / Internship
CE	Core Elective
CC	Core Course
SE	Stream Elective
TE	Technical Elective



SEMESTER - I							
S.No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	AEC	U AEC	Art of Listening, Speaking and Reading Skills	1	0	1	2
2	VAC	U VAC	Environmental Science	2	0	0	2
3	SEC	S SEC	Analytical Reasoning and Aptitude Skills - 1	1	0	1	2
4	FIC	S FIC	Engineering Physics	2	0	1	3
5	FIC	S FIC	Calculus For Engineers	3	0	0	3
6	Core	CC	Fundamentals of Computing and Programming in C	3	0	1	4
7	SEC	E SEC	Industry Standard Employability skills 1	1	0	1	2
Semester Total				13	0	5	18

SEMESTER – II							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	U AEC	Effective Writing and Presentation Skills	1	0	1	2
2	VAC	U VAC	Universal Human Values and Ethics	2	0	0	2
3	SEC	S SEC	Analytical Reasoning and Aptitude Skills 2	1	0	1	2
4	FIC	S FIC	Principles of Economics	2	0	1	3
5	FIC	S FIC	Linear Algebra and Differential Equations	3	0	0	3
6	FIC	D FIC	Foundations of Electrical and Electronics Engineering	2	0	1	3
7	Core	CC	Data Structures	3	0	1	4
8	SEC	D SEC	Industry standard coding for Entrepreneurial Minds I	0	0	2	2
Semester Total				14	0	7	21

SEMESTER - III

S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	SEC	S SEC	Analytical Reasoning and Aptitude Skills 3	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	Core	CC	Advanced Java Programming	3	0	1	4
4	Core	CC	Discrete Mathematics	3	0	0	3
5	Core	CC	Design and Analysis of Algorithms	3	0	1	4
6	Core	CC	Digital Electronics	3	0	1	4
7	Elective	OE	Open Elective / Minor	3	0	0	3
8	Core	CC	OOPS with C++	3	0	1	4
Semester Total				19	0	5	24

SEMESTER – IV

S.No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	SEC	E SEC	Industry Standard Employability skills II	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	Core	CC	Computer Networks	3	0	1	4
4	Core	CC	Hands on with Python	0	0	2	2
5	Core	CC	Probability and Statistics	3	0	0	3
6	Core	CC	Database Management Systems	3	0	1	4
7	Core	CC	Full Stack Development	2	0	2	4
8	Elective	OE	Open Elective / Minor	3	0	0	3
9	RDIP	RDIP	Summer Internship/ Mini Project/ Research Project	0	0	2	2
Semester Total				15	0	9	24

SEMESTER - V							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
2	SEC	E SEC	Career Skills - I	1	0	1	2
3	Core	CC	Operating Systems	3	0	1	4
4	Core	CC	Machine Learning	3	0	1	4
5	Core	CC	Computer Organization and Architecture	3	0	1	4
6	Elective	OE	Open Elective / Minor	3	0	0	3
7	SEC	D SEC	Industry standard coding for Entrepreneurial Minds II	0	0	2	2
8	SEC	E SEC	Industry Standard Employability skills III	1	0	1	2
Semester Total				14	0	7	21

SEMESTER – VI							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Co-Curricular Activities	0	0	2	2
2	SEC	E SEC	Career Skills - II	1	0	1	2
3	SEC	D SEC	Industry standard coding for Entrepreneurial Minds III	0	0	2	2
4	Core	CC	Software Engineering and Project Management	3	0	1	4
5	Elective	CE	Core Elective - I	3	0	0	3
6	Elective	CE	Stream Elective - I	3	0	1	4
7	Elective	CE	Stream Elective - II	3	0	1	4
Semester Total				13	0	10	21

SEMESTER - VII							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Core	CC	Automata and Compilers Design	3	0	0	3
2	Elective	CE	Core Elective - II	3	0	0	3
3	Elective	CE	Stream Elective - III	3	0	1	4
4	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				12	0	1	13

SEMESTER – VIII							
S.No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	RDIP	RDIP	Major Project	0	0	11	11
2	Elective	CE	Stream Elective - IV	3	0	1	4
3	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				6	0	10	18

Specialization: Artificial Intelligence and Machine Learning							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	SE	Artificial Intelligence	3	0	1	4
2	Elective	SE	Digital Image Processing	3	0	1	4
3	Elective	SE	Deep Learning	3	0	1	4
4	Elective	SE	Principles of Soft Computing	3	0	1	4

Specialization: Cyber Security							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	SE	Cryptography and Network Security	3	0	1	4
2	Elective	SE	Web Application Penetration Testing	3	0	1	4
3	Elective	SE	Vulnerability Analysis and Cyber Forensics	3	0	1	4
4	Elective	SE	Blockchain Technology	3	0	1	4

Specialization: Big Data Analytics							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	SE	Data Warehousing and Mining	3	0	1	4
2	Elective	SE	Applied Data Science	3	0	1	4
3	Elective	SE	Principles of Big Data Management	3	0	1	4
4	Elective	SE	Machine Learning for Big Data	3	0	1	4

Specialization: Distributed and Cloud Computing							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	SE	Parallel and Distributed Computing	3	0	1	4
2	Elective	SE	Cloud Computing	3	0	1	4
3	Elective	SE	Edge Computing	3	0	1	4
4	Elective	SE	Foundations of Software Define Networking	3	0	1	4

Specialization: Internet of Things							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	SE	Wireless Sensor Networks	3	0	1	4
2	Elective	SE	IoT System Design and Implementation	3	0	1	4
3	Elective	SE	IoT Data Analytics	3	0	1	4
4	Elective	SE	IoT Security and Blockchain	3	0	1	4

Technical Electives							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Human Computer Interaction	3	0	0	3
2	Elective	CE	Advanced Computer Architecture	3	0	0	3
3	Elective	CE	Natural Language Processing	3	0	0	3
4	Elective	CE	Computer Graphics	3	0	0	3
5	Elective	CE	Advanced Data Structures and Algorithms	3	0	0	3
6	Elective	CE	Distributed Operating Systems	3	0	0	3
7	Elective	CE	Data and Web Mining	3	0	0	3
8	Elective	CE	Complexity Theory	3	0	0	3
9	Elective	CE	Software Project Management	3	0	0	3
10	Elective	CE	Multimedia	3	0	0	3
11	Elective	CE	Deep Learning	3	0	0	3
12	Elective	CE	Advanced Database Management Systems	3	0	0	3
13	Elective	CE	Fog Computing	3	0	0	3
14	Elective	CE	Parallel Algorithms	3	0	0	3
15	Elective	CE	Web Services	3	0	0	3
16	Elective	CE	Advances in Data Mining	3	0	0	3
17	Elective	CE	Social Network Analysis	3	0	0	3
18	Elective	CE	Recommender Systems	3	0	0	3
19	Elective	CE	Computational and Complexity Theory	3	0	0	3
20	Elective	CE	Cryptography and Network Security	3	0	0	3
21	Elective	CE	Artificial Intelligence	3	0	0	3
22	Elective	CE	Machine Learning on Edge Computing	3	0	0	3
23	Elective	CE	Mobile and wireless security	3	0	0	3
24	Elective	CE	Internet protocols and networking	3	0	0	3
25	Elective	CE	Mobile application security testing	3	0	0	3
26	Elective	CE	IoT security	3	0	0	3

27	Elective	CE	Biometric Security	3	0	0	3
28	Elective	CE	Cyber Law	3	0	0	3
29	Elective	CE	Ethical Hacking	3	0	0	3
30	Elective	CE	Security audit and Risk Assessment	3	0	0	3
31	Elective	CE	Digital Forensics and Incident Response	3	0	0	3
32	Elective	CE	Security Analytics	3	0	0	3
33	Elective	CE	Multiview Geometry	3	0	0	3
34	Elective	CE	Quantum Computing	3	0	0	3
35	Elective	CE	UROP / Project	3	0	0	3
36	Elective	CE	Comprehensive Linux for IT Professionals	3	0	0	3
37	Elective	CE	ERP Solution for Digital Enterprises	3	0	0	3
38	Elective	CE	Advanced Python Programming	3	0	0	3
39	Elective	CE	ERP Application Development and Enterprise Data Platforms	3	0	0	3
40	Elective	CE	Foundations of CMOS Microfabrication and Intelligent Process Modeling	3	0	0	3
41	Elective	CE	Flying Ad-hoc Networks	3	0	0	3
42	Elective	CE	User Interface (UI) Design	3	0	0	3

Minor in Computer Science							
S.No	Category	Sub-Category	Course Title	L	T/	P/	C
1	OE	OE	Computational Problem Solving	3	0	0	3
2	OE	OE	OOPS through Java	3	0	0	3
3	OE	OE	Advanced Python Programming	3	0	0	3
4	OE	OE	Relational Database Management Systems	3	0	0	3
5	OE	OE	Network and Web Programming	3	0	0	3
6	OE	OE	Operating System	3	0	0	3

Minor in Data Science							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	OE	OE	Machine Learning	3	0	0	3
2	OE	OE	Data Analytics using Python	3	0	0	3
3	OE	OE	Deep Learning	3	0	0	3
4	OE	OE	Data warehousing and Mining	3	0	0	3
5	OE	OEV	Project	3	0	0	3

Minor in AI and ML							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	OE	OE	Machine Learning	3	0	0	3
2	OE	OE	Digital Image Processing	3	0	0	3
3	OE	OE	Deep Learning	3	0	0	3
4	OE	OE	Soft Computing	3	0	0	3
5	OE	OE	Project	3	0	0	3

Carrer Skill Courses							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	SEC	E SEC	Advanced Data Structures and Algorithms	3	0	0	3
2	SEC	E SEC	Cloud Computing	3	0	0	3
3	SEC	E SEC	Full Stack Development Using Mern Stack	3	0	0	3