

Department of Computer Science

B.Sc. (Hons.) Computer Science Curriculum

(Applicable to the students admitted from AY: 2023 onwards)



**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	1	3
4	FIC	S FIC	Emerging Technologies	2	0	0	2
5	FIC	S FIC	Chemical Basis of Life	3	0	0	3
6	FIC	S FIC	Mathematics for Physical World	3	0	0	3
7	FIC	S FIC	Fundamentals of Computing	2	0	1	3
Semester Total				14	1	3	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	Entrepreneurial Mindset	0	0	2	2
4	FIC	S FIC	Principles of Management	3	0	0	3
5	FIC	S FIC	Psychology for Everyday Living	3	0	0	3
6	Core	CC	Data Structures	3	0	1	4
7	Core	CC	Discrete Mathematics	3	0	1	4
Semester Total				15	0	5	20

SEMESTER - III							
S. No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	AEC	SAEC	Problem Solving Skills	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
4	SEC	S SEC	Digital Literacy	2	0	0	2
5	Core	CC	Object Oriented Programming with C++	3	0	1	4
6	Core	CC	Digital Electronics	3	0	1	4
7	Core	CC	Design and Analysis of Algorithms	3	0	1	4
8	Core	CC	Linear Algebra and Differential Equations	4	0	0	4
9	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				19	0	8	23

SEMESTER - IV							
S. No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	AEC	S AEC	Creativity and Critical Thinking Skills	1	0	1	2
2	VAC	U VAC	Co-Curricular Activities	0	0	2	2*
3	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2*
4	SEC	D SEC	Mathematical Modelling of Physical Data	2	0	0	2
5	Core	CC	Computer Organization and Architecture	3	0	1	4
6	Core	CC	Mobile Application Development with Java	3	0	1	4
7	Core	CC	Database Management Systems	3	0	1	4
8	Elective	OE	Open Elective	3	0	0	3
Semester Total				15	0	4	19

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	VAC	U VAC	Community Service and Social Responsibility	0	0	2	2 *
3	SEC	E SEC	Career Skills - I	3	0	0	3
4	Core	CC	Computer Networks	3	0	1	4
5	Core	CC	Operating Systems	3	0	1	4
6	Core	CC	Web Technology	3	0	1	4
7	Core	CC	Machine Learning	3	0	1	4
8	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				18	0	4	22

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	3	0	0	3
3	Core	CC	Software Engineering and Project Management	3	0	1	4
4	Elective	CE	Specialization Elective - I	3	0	1	4
5	Elective	CE	Specialization Elective - II	3	0	1	4
6	Elective	CE	Core Elective - I	3	0	0	3
7	Elective	OE	Open Elective / Minor	3	0	0	3
Semester Total				18	0	5	23

SEMESTER - VII							
S. No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	Elective	SE	Specialization Elective - III	3	0	1	4
2	Elective	SE	Specialization Elective - IV	3	0	1	4
3	Elective	CE	Core Elective - II	3	0	0	3
4	RDIP	RDIP	Internship	0	0	6	6
5	Elective	OE	Open Elective	3	0	0	3
Semester Total				12	0	8	20

SEMESTER - VIII							
S. No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	RDIP	RDIP	Major Project	0	0	15	15
Semester Total				0	0	15	15

List of Core 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	Artificial Intelligence	3	0	0	3
21	Elective	CE	Machine Learning on Edge Computing	3	0	0	3
22	Elective	CE	Mobile and wireless security	3	0	0	3
23	Elective	CE	Internet protocols and networking	3	0	0	3
24	Elective	CE	Mobile application security testing	3	0	0	3
25	Elective	CE	IoT security	3	0	0	3
26	Elective	CE	Biometric Security	3	0	0	3
27	Elective	CE	Cyber Law	3	0	0	3
28	Elective	CE	Ethical Hacking	3	0	0	3
29	Elective	CE	Security audit and Risk Assessment	3	0	0	3
30	Elective	CE	Digital Forensics and Incident Response	3	0	0	3
31	Elective	CE	Security Analytics	3	0	0	3
32	Elective	CE	Multiview Geometry	3	0	0	3
33	Elective	CE	Project	3	0	0	3

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

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

Career Skill							
S. No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	SEC	E SEC	Coding Skills - I	3	0	0	3
2	SEC	E SEC	Coding Skills – II	3	0	0	3