

School of Engineering and Applied Sciences
B. Tech Computer Science and Engineering

Academic Batch: 2021-2025

Department of Computer Science Engineering
SRM University-AP, Andhra Pradesh
Syllabus B. Tech in Computer Science Engineering

SEMESTER-I						
S. No	Course Code	Course Name	L	T	P	C
1	EGL 101/HS E	Communicative English /HS Elective	3	0	0	3
2	MAT 112	Single Variable Calculus	3	0	0	3
3	PHY 101/CHE 103	Engineering Physics /Chemistry for Engineers	3/2	0	0	3/2
4	PHY 101 L/CHE 103 L	Engineering Physics Lab /Chemistry for Engineers Lab	0	0	2	1

5	BIO 102/ENV 111	Introductory Biology /Environmental Science	3/2	0	0	3/2
6	***/ENV 111 L	***/Environmental Science Lab	0/0	0/0	0/2	0/1
7	CSE 105	Introduction to Programming Using C	3	0	0	3
8	CSE 105 L	Introduction to Programming Using C Lab	0	0	2	1
9	ISES 101	Industry Specific Employability Skills-I	1	1	0	1

** No Lab for Introductory Biology

Total

18/17

SEMESTER-II

S. No	Course Code	Course Name	L	T	P	C
1	EGL 101/HS E	Communicative English /HS Elective	3	0	0	3
2	MAT 121	Multi variable Calculus	3	0	0	3
3	ENG 111	Basic Electronics	3	0	0	3
4	ENG 111 L	Basic Electronics Lab	0	0	2	1
5	CSE 107	Data Structures	3	0	0	3
6	CSE 107 L	Data Structures Lab	0	0	2	1
7	CHE 103/ PHY 101	Chemistry for Engineers /Engineering Physics	2/3	0	0	2/3
8	CHE 103 L/PHY 101 L	Chemistry for Engineers Lab /Engineering Physics Lab	0	0	2	1
9	ENV 111/BIO 102	Environmental Science/ Introductory Biology	2/3	0	0	2/3
10	ENV 111 L/***	Environmental Science Lab/***	0/0	0/0	2/0	1/0
11	CSE 130	Industry Standard Coding Practice-I	0	0	4	1
12	ISES 102	Industry Specific Employability Skills-II	1	1	0	1

** No Lab for Introductory Biology

Total

22/23

SEMESTER-III

S. No	Course Code	Course Name	L	T	P	C
1	MAT 141	Discrete Mathematics	3	0	0	3
2	CSE 206	Object Oriented Programming with C++	3	0	0	3
3	CSE 206 L	Object Oriented Programming with C++ Lab	0	0	2	1
4	CSE 201	Design and Analysis of Algorithms	3	0	0	3
5	CSE 201 L	Design and Analysis of Algorithms Lab	0	0	2	1
6	ECE 211	Digital Electronics	2	1	0	3
7	ECE 211 L	Digital Electronics-Lab	0	0	2	1
8	CSE 106 L	Hands on Using Python	0	0	4	2
9	CSE 231	Industry Standard Coding Practice-II	0	0	4	1
10	ECO 121	Principles of Economics	3	0	0	3
11	ISES 201	Industry Specific Employability Skills-III	1	1	0	1

Total							22
SEMESTER-IV							
S. No	Course Code	Course Name	L	T	P	C	
1	MAT 221	Probability and Statistics for Engineers	3	0	0	3	
2	MAT 131	Differential Equations	3	0	0	3	
3	CSE 204	Computer Organization and Architecture	3	0	0	3	
4	CSE 204 L	Computer Organization and Architecture Lab	0	0	2	1	
5	CSE 301	Operating System	3	0	0	3	
6	CSEC 301 L	Operating System Lab	0	0	2	1	
7	CSE 207	Java Programming	3	0	0	3	
8	CSE 207 L	Java Programming Lab	0	0	2	1	
9	CSE 203	Formal Languages and Automata Theory	3	0	0	3	
10	ISES 202	Industry Specific Employability Skills-IV	1	1	0	1	
11	CSE 233	Industry Standard Coding Practice-III	0	0	4	1	
Total							23
SEMESTER-V							
S. No	Course Code	Course Name	L	T	P	C	
1	MAT 211	Linear Algebra	3	0	0	3	
2	CSE 303	Computer Networks	3	0	0	3	
3	CSE 303 L	Computer Networks Lab	0	0	2	1	
4	CSE 306	Compiler Design	3	0	0	3	
5	CSE 306 L	Compiler Design Lab	0	0	2	1	
6	CSE 304	Database Management System	3	0	0	3	
7	CSE 304 L	Database Management System Lab	0	0	2	1	
8	CSE SE 1	CS Stream Elective 1	3	0	0	3	
9	CSE SE 1 L	CS Stream Elective 1 Lab	0	0	2	1	
10	OE	Open Elective 1	3/4	0	0	3/4	
11	CSE 332	Industry Standard Coding Practice-IV	0	0	4	1	
12	ISES 301	Industry Specific Employability Skills-V	1	1	0	0	
Total							23/24
SEMESTER-VI							
S. No	Course Code	Course Name	L	T	P	C	
1	CSE 305	Software Engineering	3	0	0	3	
2	CSE 305 L	Software Engineering-Lab	0	0	2	1	
3	OE	Open Elective 2	3/4	0	0	3/4	
4	OE	Open Elective 3	3/4	0	0	3/4	
5	CSE TE 1	CSE Technical Elective 1	3	0	0	3	

6	CSE SE 2	CS Stream Elective 2	3	0	0	3
7	CSE SE 2 L	CS Stream Elective 2 Lab	0	0	2	1
8	CSE 340	UROP	0	0	6	3
9	ISES 302	Industry Specific Employability Skills-VI	1	1	0	0
Total						20/22
SEMESTER-VII						
S. No	Course Code	Course Name	L	T	P	C
1	CSE SE 3	CS Stream Elective 3	3	0	0	3
2	CSE SE 3 L	CS Stream Elective 3 Lab	0	0	2	1
3	CSE SE 4	CS Stream Elective 4	3	0	0	3
4	CSE SE 4 L	CS Stream Elective 4 Lab	0	0	2	1
5	CSE TE 2	CS Technical Elective 2	3	0	0	3
6	OE	Open Elective 4	3/4	0	0	3/4
7	OE	Open Elective 5	3/4	0	0	3/4
8	CSE 460	Capstone Project Phase-I	0	0	12	6
Total						23/25
SEMESTER-VIII						
S. No	Course Code	Course Name	L	T	P	C
1	OE	Open Elective 6	3/4	0	0	3/4
2	CSE 461	Capstone Project Phase-II	0	0	12	6
Total						9/10
Total Credits						160/166

Course Category	Category Code	No of Courses	Credits in curriculum
Humanities and Social Sciences	HS	9	13
Basic Sciences	BS	11	25
Engineering Sciences	ES	11	19
Professional Core	C	23	48
Professional Elective	SE	8	16
	TE	2	6
Open Elective	OE	6	18/24
Project	PR	3	15
	Total	73	160/166

List of Stream Specific Electives					
Course Code	Course Name	L	T	P	C
Artificial Intelligence and Machine Learning Stream					
CSE 413	Artificial Intelligence	3	0	0	3
CSE 413 L	Artificial Intelligence Lab	0	0	2	1
CSE 336	Machine Learning	3	0	0	3
CSE 336 L	Machine Learning Lab	0	0	2	1
CSE 314	Digital Image Processing	3	0	0	3
CSE 314 L	Digital Image Processing Lab	0	0	2	1
CSE 412	Principles of Soft Computing	3	0	0	3
CSE 412 L	Principles of Soft Computing Lab	0	0	2	1
Cyber Security Stream					
CSE 337	Cryptography	3	0	0	3
CSE 337 L	Cryptography Lab	0	0	2	1
CSE 315	Network Security	3	0	0	3
CSE 315 L	Network Security Lab	0	0	2	1
CSE 410	Mobile and Wireless Security	3	0	0	3
CSE 410 L	Mobile and Wireless Security Lab	0	0	2	1
CSE 414	Internet Protocols and Networking	3	0	0	3
CSE 414 L	Internet Protocols and Networking Lab	0	0	2	1
Big data Analytics Stream					
CSE 310	Data warehousing and Mining	3	0	0	3
CSE 310 L	Data warehousing and Mining Lab	0	0	2	1
CSE 338	Applied Data Science	3	0	0	3
CSE 338 L	Applied Data Science Lab	0	0	2	1
CSE 417	Principles of Big data Management	3	0	0	3
CSE 417 L	Principles of Big data Management Lab	0	0	2	1
CSE 419	Information Retrieval	3	0	0	3
CSE 419 L	Information Retrieval Lab	0	0	2	1
Distributed and Cloud Computing Stream					
CSE 316	Distributed Systems	3	0	0	3
CSE 316 L	Distributed Systems Lab	0	0	2	1
CSE 318	Cloud Computing	3	0	0	3
CSE 318 L	Cloud Computing Lab	0	0	2	1
CSE 416	Cloud Data Management	3	0	0	3
CSE 416 L	Cloud Data Management Lab	0	0	2	1
CSE 418	Service Oriented Computing	3	0	0	3
CSE 418 L	Service Oriented Computing Lab	0	0	2	1
Internet of Things Stream					
CSE 337	Cryptography	3	0	0	3
CSE 337 L	Cryptography Lab	0	0	2	1

CSE 318	Cloud computing	3	0	0	3
CSE 318 L	Cloud computing Lab	0	0	2	1
CSE 317	Embedded Systems	3	0	0	3
CSE 317 L	Embedded Systems Lab	0	0	2	1
CSE 319	IoT Design Protocols	3	0	0	3
CSE 319 L	IoT Design Protocols Lab	0	0	2	1

List of Technical Electives					
Course Code	Course Name	L	T	P	C
CSE 320	Web Programming	3	0	0	3
CSE 321	Human Computer Interaction	3	0	0	3
CSE 322	Advanced Computer Architecture	3	0	0	3
CSE 323	Natural Language Processing	3	0	0	3
CSE 324	Computer Graphics	3	0	0	3
CSE 325	Advanced Data Structures and Algorithms	3	0	0	3
CSE 326	Distributed Operating Systems	3	0	0	3
CSE 420	Data and Web Mining	3	0	0	3
CSE 421	Complexity Theory	3	0	0	3
CSE 422	Software Project Management	3	0	0	3
CSE 423	Multimedia	3	0	0	3
CSE 424	Deep learning	3	0	0	3
CSE 425	Advanced Database Management Systems	3	0	0	3
CSE 426	Fog Computing	3	0	0	3
CSE 427	Parallel Algorithms	3	0	0	3
CSE 428	Web Services	3	0	0	3
CSE 429	Advances in Data Mining	3	0	0	3