



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

Syllabus

AY: 2019-2023

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 111 (Non Minerva) / EGL 112 (Minerva)	Communicative English	3	0	0	3
2	MAT 112	Single Variable Calculus	3	0	0	3
3	PHY 101 / CHE 101	Engineering Physics / Chemistry	2	0	0	2
4	PHY101 L / CHE 101 L	Engineering Physics Lab / Chemistry Lab	0	0	2	1
5	BIO 101	Biology	2	0	0	2
6	BIO 101 L	Biology Lab	0	0	2	1
7	CSE 101	Introduction to Programming using Python	3	0	0	3
8	CSE 101 L	Introduction to Programming using Python Lab	0	0	2	1
9	CDC 101	Soft Skills	1	0	0	1
Total Required Credits from this Semester						17
Semester-II						
S.No	Course Code	Course Name	L	T	P	C
1	MAT 121	Multi variable Calculus	3	0	0	3
2	ENG 111	Basic Electronics	3	0	0	3
3	ENG 111 L	Basic Electronics Lab	0	0	2	1
4	MAT 115	Statistics	3	0	0	3
5	EGL 121	Critical Thinking	3	0	0	3
6	CSE 104	Data Structures and Algorithms Using C	3	0	0	3
7	CSE 104 L	Data Structures and Algorithms Using C Lab	0	0	2	1
8	CHE 101/PHY101	Chemistry/Engineering Physics	2	0	0	2
9	CHE 101 L/PHY101 L	Chemistry Lab/Engineering Physics Lab	0	0	2	1
10	CDC 102	Soft Skills-II	1	0	0	1
Total Required Credits from this Semester						21
Semester-III						
S.No	Course Code	Course Name	L	T	P	C
1	MAT 141	Discrete Mathematics	3	0	0	3
2	ENV 111	Environmental Science	2	0	0	2
3	ENV 111 L	Environmental Science 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	3	0	0	3
7	ECE 211 L	Digital Electronics Lab	0	0	2	1

8	CSE 205	Object oriented programming with Java	3	0	0	3
9	CSE 205 L	Object oriented programming with Java Lab	0	0	2	1
10	CDC 221	Aptitude	1	1	0	1
11	CSE 230	Industry Standard Coding Practice-1	0	0	4	1
Total Required Credits from this Semester						20
Semester-IV						
S.No	Course Code	Course Name	L	T	P	C
1	ECO 121	Principles of Economics	3	0	0	3
2	MAT 211	Linear Algebra	3	0	0	3
3	CSE 202	Web Technology	3	0	0	3
4	CSE 202 L	Web Technology Lab	0	0	2	1
5	CSE 203	Formal Languages and Automata Theory	3	0	0	3
6	CSE 204	Computer Organization and Architecture	3	0	0	3
7	CSE 204 L	Computer Organization and Architecture Lab	0	0	2	1
8	CSE 304	Database Management System	3	0	0	3
9	CSE 304 L	Database Management System Lab	0	0	2	1
10	CSE 330	Industry Standard Coding Practice -2	0	0	4	1
11	ISES 212	Industry Specific Employability Skills-IV	1	1	0	1
Total Required Credits from this Semester						23
Semester-V						
S.No	Course Code	Course Name	L	T	P	C
1	MAT 131	Differential Equations	3	0	0	3
2	CSE 301	Operating System	3	0	0	3
3	CSE 301 L	Operating System-Lab	0	0	2	1
4	CSE 303	Computer Networks	3	0	0	3
5	CSE 303 L	Computer Networks-Lab	0	0	2	1
6	CSE 306	Compiler Design	3	0	0	3
7	CSE 306 L	Compiler Design Lab	0	0	2	1
8	OE	Open Elective 1	3/4	0	0	3/4
9	CSE SE 1	CSE Stream Elective 1	3	0	0	3
10	CSE SE 1 L	CSE Stream Elective 1 Lab	0	0	2	1
11	CSE 331	Industry Standard Coding Practice -3	0	0	4	1
12	ISES 311	Industry Specific Employability Skills-V	1	1	0	0
Total Required Credits from this Semester						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	HSE	Humanities Elective	3	0	0	3
4	OE	Open Elective 2	3/4	0	0	3/4
5	OE	Open Elective 3	3/4	0	0	3/4
6	CSE TE 1	CS Technical Elective 1	3	0	0	3
7	CSE SE 2	CS Stream Elective 2	3	0	0	3
8	CSE SE2 L	CS Stream Elective 2 Lab	0	0	2	1
9	CSE 340	UROP	0	0	6	3
10	ISES 312	Industry Specific Employability Skills-VI	1	1	0	0
Total Required Credits from this Semester						23/25
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 Required Credits from this Semester						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 Required Credits from this Semester						9/10
Total Credits						159/165

Course Category	Category Code	No of Courses	Credits in curriculum
Humanities and Social Sciences	HS	10	16
Basic Sciences	BS	12	24
Engineering Sciences	ES	10	18
Professional Core	C	22	46
Professional Elective	SE	8	16
	TE	2	6
Open Elective	OE	6	18/24
Project	PR	3	15
	Total	73	159/165

	List of Stream Specific Electives					
	Course Code	Course Name	L	T	P	C
	Artificial Intelligence and Machine Learning Stream					
SE 1	CSE 413	Artificial Intelligence	3	0	0	3
SE 1 L	CSE 413 L	Artificial Intelligence Lab	0	0	2	1
SE 2	CSE 336	Machine Learning	3	0	0	3
SE 2 L	CSE 336 L	Machine Learning Lab	0	0	2	1
SE 3	CSE 314	Digital Image Processing	3	0	0	3
SE 3 L	CSE 314 L	Digital Image Processing Lab	0	0	2	1
SE 4	CSE 412	Principles of Soft Computing	3	0	0	3
SE 4 L	CSE 412 L	Principles of Soft Computing Lab	0	0	2	1
	Cyber Security Stream					
SE 1	CSE 337	Cryptography	3	0	0	3
SE 1 L	CSE 337 L	Cryptography Lab	0	0	2	1
SE 2	CSE 315	Network Security	3	0	0	3
SE 2 L	CSE 315 L	Network Security Lab	0	0	2	1
SE 3	CSE 410	Mobile and Wireless Security	3	0	0	3
SE 3 L	CSE 410 L	Mobile and Wireless Security Lab	0	0	2	1
SE 4	CSE 414	Internet Protocols and Networking	3	0	0	3
SE 4 L	CSE 414 L	Internet Protocols and Networking Lab	0	0	2	1
	Big data Analytics Stream					
SE 1	CSE 310	Data warehousing and Mining	3	0	0	3
SE 1 L	CSE 310 L	Data warehousing and Mining Lab	0	0	2	1
SE 2	CSE 338	Applied Data Science	3	0	0	3
SE 2 L	CSE 338 L	Applied Data Science Lab	0	0	2	1
SE 3	CSE 417	Principles of Big data Management	3	0	0	3
SE 3 L	CSE 417 L	Principles of Big data Management Lab	0	0	2	1
SE 4	CSE 419	Information Retrieval	3	0	0	3
SE 4 L	CSE 419 L	Information Retrieval Lab	0	0	2	1
	Distributed and Cloud Computing Stream					
SE 1	CSE 316	Distributed Systems	3	0	0	3
SE 1 L	CSE 316 L	Distributed Systems Lab	0	0	2	1
SE 2	CSE 318	Cloud Computing	3	0	0	3
SE 2 L	CSE 318 L	Cloud Computing Lab	0	0	2	1
SE 3	CSE 416	Cloud Data Management	3	0	0	3
SE 3 L	CSE 416 L	Cloud Data Management Lab	0	0	2	1
SE 4	CSE 418	Service Oriented Computing	3	0	0	3
SE 4 L	CSE 418 L	Service Oriented Computing Lab	0	0	2	1

Internet of Things Stream						
SE 1	CSE 337	Cryptography	3	0	0	3
SE 1 L	CSE 337 L	Cryptography Lab	0	0	2	1
SE 2	CSE 318	Cloud computing	3	0	0	3
SE 2 L	CSE 318 L	Cloud computing Lab	0	0	2	1
SE 3	CSE 317	Embedded Systems	3	0	0	3
SE 3 L	CSE 317 L	Embedded Systems Lab	0	0	2	1
SE 4	CSE 319	IoT Design Protocols	3	0	0	3
SE 4 L	CSE 319 L	IoT Design Protocols Lab	0	0	2	1

List of Technical Electives						
Course Code	Course Name	L	T	P	C	
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	

