

ACADEMIC CURRICULA

UNDERGRADUATE/ INTEGRATED

POST GRADUATE DEGREE

PROGRAMMES

(With exit option of Diploma)

(Choice Based Flexible Credit System)

Regulations 2021

Volume – 1

(Updated on July 2025)



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

(Deemed to be University u/s 3 of UGC Act, 1956)

Kattankulathur, Chengalpattu District 603203,

Tamil Nadu, India

18. B.Tech. in Computer Science and Engineering

18. (a) Mission of the Department

Mission Stmt – 1	To impart knowledge in cutting edge Computer Science and Engineering technologies in par with industrial standards.
Mission Stmt – 2	To collaborate with renowned academic institutions to uplift innovative research and development in Computer Science and Engineering and its allied fields to serve the needs of society
Mission Stmt – 3	To demonstrate strong communication skills and possess the ability to design computing systems individually as well as part of a multidisciplinary teams.
Mission Stmt – 4	To instill societal, safety, cultural, environmental, and ethical responsibilities in all professional activities
Mission Stmt – 5	To produce successful Computer Science and Engineering graduates with personal and professional responsibilities and commitment to lifelong learning

18. (b) Program Educational Objectives (PEO)

PEO – 1	Graduates will be able to perform in technical/managerial roles ranging from design, development, problem solving to production support in software industries and R&D sectors.
PEO – 2	Graduates will be able to successfully pursue higher education in reputed institutions.
PEO – 3	Graduates will have the ability to adapt, contribute and innovate new technologies and systems in the key domains of Computer Science and Engineering.
PEO – 4	Graduates will be ethically and socially responsible solution providers and entrepreneurs in Computer Science and other engineering disciplines.
PEO – 5	Graduates will possess the additional skills in core computer science discipline with knowledge of Hardware, Software, Programming and Logic & Reasoning.

18. (c) Mission of the Department to Program Educational Objectives (PEO) Mapping

	Mission Stmt. - 1	Mission Stmt. - 2	Mission Stmt. - 3	Mission Stmt. - 4	Mission Stmt. - 5
PEO - 1	3	-	-	-	1
PEO - 2	-	-	2	-	-
PEO - 3	-	3	3	-	-
PEO - 4	-	-	-	2	3
PEO - 5	-	-	-	3	-

3 – High Correlation, 2 – Medium Correlation, 1 – Low Correlation

18. (d) Mapping Program Educational Objectives (PEO) to Program Outcomes (PO)

	Program Outcomes (PO)												Program Specific Outcomes (PSO)		
	1	2	3	4	5	6	7	8	9	10	11	12	PSO-1	PSO-2	PSO-3
	Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern Tool Usage	The engineer and society	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning			
PEO - 1	3	-	-	1		2	-	3	2	-	-	-	3	3	2
PEO - 2	-	2	2		3	-	3	2	-	-	-	-	2	3	3
PEO - 3	-	3	3	2	-	-	-	-	-	2	-	3	3	3	3
PEO - 4	-	2	3	-	-	3	2	-	2	-	2	2	3	3	2
PEO - 5	-	-	-	-	-	3	-	-	3	3	3	3	3	3	3

3 – High Correlation, 2 – Medium Correlation, 1 – Low Correlation

PSO – Program Specific Outcomes (PSO)

PSO - 1	To understand, analyze, design, and develop computing solutions by applying fundamental concepts of computer science and engineering.
PSO - 2	To apply computing principles, skills and practices to develop solutions using logical and reasoning skills, for real life problems.
PSO - 3	To identify and use appropriate upcoming technologies and implement software solutions.

18. (c) Program Structure: B.Tech. in Computer Science and Engineering

Humanities & Social Sciences including Management Courses (H)						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21LEH101T	Communicative English	2	1	0	3	
21LEH102T	Chinese	2	1	0	3	
21LEH103T	French					
21LEH104T	German					
21LEH105T	Japanese					
21LEH106T	Korean					
21LEH107T	Spanish					
21LEH108T	Russian					
21GNH101J	Philosophy of Engineering	1	0	2	2	
21PDH209T ¹	Social Engineering	2	0	0	2	
21GNH401TA	Behavioral Psychology	2	1	0	3	
Total Credits					13	

Engineering Science Courses (S)						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21MES101L ¹	Basic Civil and Mechanical Workshop	0	0	4	2	
21MES102L ¹	Engineering Graphics and Design	0	0	4	2	
21EES101T	Electrical and Electronics Engineering	3	1	0	4	
21CSS101J	Programming for Problem Solving	3	0	2	4	
21CSS201T	Computer Organization and Architecture	3	1	0	4	
21DCS201P ¹	Design Thinking and Methodology	1	2	0	3	
21CSS303T	Data Science	2	0	0	2	
Total Credits					21	

Open Elective Courses (O) (Any 3 courses)						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21CSO351T	Web Programming	2	1	0	3	
21CSO352T	Python Programming	2	1	0	3	
21CSO353T	Mobile Application Development	2	1	0	3	
21CSO354T	Data Analytics	2	1	0	3	
Total Credits					09	

Project Work, Seminar, Internship in Industry / Higher Technical Institutions (P)						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21GNP301L ¹	Community Connect	0	0	2	1	
21CSP302L ¹	Project	0	0	6	3	
21CSP303T ¹	MOOC	3	0	0		
21CSP401L	Major Project	0	0	30		
21CSP402L	Major Project	0	0	20		
21CSP403L	Internship#	0	0	10		
Total Credits					19	

Basic Science Courses (B)						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21PYB102J	Semiconductor Physics and Computational Methods	3	1	2	5	
21CYB101J	Chemistry	3	1	2	5	
21MAB101T	Calculus and Linear Algebra	3	1	0	4	
21MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4	
21MAB201T	Transforms and Boundary Value Problems	3	1	0	4	
21MAB204T	Probability and Queueing Theory	3	1	0	4	
21MAB302T	Discrete Mathematics	3	1	0	4	
21BTB102T	Introduction to Computational Biology	2	0	0	2	
Total Credits					32	

Professional Core Courses (C)						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21CSC101T	Object Oriented Design and Programming	2	1	0	3	
21CSC201J	Data Structures and Algorithms	3	0	2	4	
21CSC202J	Operating Systems	3	0	2	4	
21CSC203P ¹	Advanced Programming Practice	3	1	0	4	
21CSC204J	Design and Analysis of Algorithms	3	0	2	4	
21CSC205P ¹	Database Management Systems	3	1	0	4	
21CSC206T	Artificial Intelligence	2	1	0	3	
21CSC301T	Formal Language and Automata	3	0	0	3	
21CSC302J	Computer Networks	3	0	2	4	
21CSC303J	Software Engineering and Project Management	2	0	2	3	
21CSC304J	Compiler Design	2	0	2	3	
21CSC305P ¹	Machine Learning	2	1	0	3	
Total Credits					42	

Non Credit Courses (M)						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21PDM101L ¹	Professional Skills and Practices	0	0	2	0	
21PDM102L ¹	General Aptitude	0	0	2		
21PDM201L ¹	Verbal Reasoning	0	0	2		
21PDM202L ¹	Critical and Creative Thinking Skills	0	0	2		
21PDM301L ¹	Analytical and Logical Thinking Skills	0	0	2		
21PDM302L ¹	Employability Skills and Practices	0	0	2		
21CYM101T ¹	Environmental Science	1	0	0	0	
21LEM101T ¹	Constitution of India	1	0	0	0	
21LEM102T ¹	Universal Human Values – Introduction	1	0	0	0	
21LEM201T ¹	Professional Ethics	1	0	0	0	
21LEM202T ¹	Universal Human Values-II: Understanding Harmony and Ethical Human Conduct	2	1	0	3	
21LEM301T ¹	Indian Art Form	1	0	0	0	
21LEM302T ¹	Indian Traditional Knowledge	1	0	0	0	
21GNM101L ¹	Physical and Mental Health using Yoga	0	0	2	0	
21GNM102L ¹	National Service Scheme					
21GNM103L ¹	National Cadet Corps					
21GNM104L ¹	National Sports Organization					
Total Credits					03	

Professional Elective Courses (E) (Any 8 Courses)					
Course Code	Course Title	Hours / Week			C
		L	T	P	
21CSE251T	Digital Image Processing	3	0	0	3
21CSE252T	Biometrics	2	1	0	3
21CSE253T	Internet of Things	2	1	0	3
21CSE254T	Bio Inspired Computing	2	1	0	3
21CSE255T	Computer Graphics and Animation	2	1	0	3
21CSE306P ¹	Applied Generative AI	2	1	0	3
21CSE311J	Cloud Based Remote Sensing and GIS	2	0	2	3
21CSE315P ¹	Data Orchestration and Management in Cloud Ecosystems	2	1	0	3
21CSE351T	Computational Logic	2	1	0	3
21CSE352T	Neuro Fuzzy and Genetic Programming	2	1	0	3
21CSE353T	Augmented, Virtual and Mixed Reality	2	1	0	3
21CSE354T	Full Stack Web Development	2	1	0	3
21CSE355T	Data Mining and Analytics	2	1	0	3
21CSE356T	Natural Language Processing	2	1	0	3
21CSE357T	Distributed Computing	2	1	0	3
21CSE358T	Network Security and Cryptography	2	1	0	3
21CSE359T	Information Storage and Management	2	1	0	3
21CSE360TA	Parallel Computing and GPU Programming	2	1	0	3

Professional Elective Courses (E)					
Course Code	Course Title	Hours / Week			C
		L	T	P	
21CSE361T	Database Security and Privacy	2	1	0	3
21CSE362T	Cloud Computing	2	1	0	3
21CSE399T	Advanced Mobile Communications	3	0	0	3
21CSE402P ¹	Intelligent Systems for IoT Applications	2	1	0	3
21CSE451T	Pattern Recognition Techniques	2	1	0	3
21CSE452T	Semantic Web	2	1	0	3
21CSE453T	Speech Recognition	2	1	0	3
21CSE454T	Computer Vision	2	1	0	3
21CSE455T	Social Network Analysis	2	1	0	3
21CSE456T	Software Defined Networks	2	1	0	3
21CSE457T	Service Oriented Architecture	2	1	0	3
21CSE458T	Wireless and Mobile Communication	2	1	0	3
21CSE459T	Wireless Sensor Networks	2	1	0	3
21CSE460T	Network Protocols and Algorithms	2	1	0	3
Total Credits					24

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18. (g) Implementation Plan: B.Tech. in Computer Science and Engineering

Semester – I						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21LEH102T	Chinese	2	1	0	3	
21LEH103T	French					
21LEH104T	German					
21LEH105T	Japanese					
21LEH106T	Korean					
21LEH107T	Spanish					
21LEH108T	Russian					
21GNH101J	Philosophy of Engineering	1	0	2	2	
21MAB101T	Calculus and Linear Algebra	3	1	0	4	
21CYB101J	Chemistry	3	1	2	5	
21BTB102T	Introduction to Computational Biology	2	0	0	2	
21CSS101J	Programming for Problem Solving	3	0	2	4	
21MES101L ¹	Basic Civil and Mechanical Workshop	0	0	4	2	
21PDM101L ¹	Professional Skills and Practices	0	0	2	0	
21GNM101L ¹	Physical and Mental Health using Yoga	0	0	2	0	
21GNM102L ¹	National Service Scheme					
21GNM103L ¹	National Cadet Corps					
21GNM104L ¹	National Sports Organization					
Total Credits 22						
Semester – III						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21MAB201T	Transforms and Boundary Value Problems	3	1	0	4	
21DCS201P ¹	Design Thinking and Methodology	1	2	0	3	
21CSS201T	Computer Organization and Architecture	3	1	0	4	
21CSC201J	Data Structures and Algorithms	3	0	2	4	
21CSC202J	Operating Systems	3	0	2	4	
21CSC203P ¹	Advanced Programming Practice	3	1	0	4	
21LEM201T ¹	Professional Ethics	1	0	0	0	
21PDM201L ¹	Verbal Reasoning	0	0	2	0	
Total Credits 23						
Semester – V						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21MAB302T	Discrete Mathematics	3	1	0	4	
21CSC301T	Formal Language and Automata	3	0	0	3	
21CSC302J	Computer Networks	3	0	2	4	
21CSC305P ¹	Machine Learning	2	1	0	3	
E	Professional Elective – II				3	
O	Open Elective – I				3	
21GNP301L ¹	Community Connect	0	0	2	1	
21PDM301L ¹	Analytical and Logical Thinking Skills	0	0	2	0	
21LEM301T ¹	Indian Art Form	1	0	0	0	
Total Credits 21						
Semester – VII						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21GNH401TA	Behavioral Psychology	2	1	0	3	
E	Professional Elective – V				3	
E	Professional Elective – VI				3	
E	Professional Elective – VII				3	
E	Professional Elective – VIII				3	
O	Open Elective –III				3	
Total Credits 18						

Semester – II						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21LEH101T	Communicative English	2	1	0	3	
21MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4	
21PYB102J	Semiconductor Physics and Computational Methods	3	1	2	5	
21MES102L ¹	Engineering Graphics and Design	0	0	4	2	
21EES101T	Electrical and Electronics Engineering	3	1	0	4	
21CSC101T	Object Oriented Design and Programming	2	1	0	3	
21CYM101T ¹	Environmental Science*	1	0	0	0	
21PDM102L ¹	General Aptitude*	0	0	2	0	
21LEM101T ¹	Constitution of India	1	0	0	0	
Total Credits 21						
Semester – IV						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21MAB204T	Probability and Queueing Theory	3	1	0	4	
21CSC204J	Design and Analysis of Algorithms	3	0	2	4	
21CSC205P ¹	Database Management Systems	3	1	0	4	
21CSC206T	Artificial Intelligence	2	1	0	3	
E	Professional Elective-I				3	
21PDH209T ¹	Social Engineering	2	0	0	2	
21PDM202L ¹	Critical and Creative Thinking Skills	0	0	2	0	
21LEM202T ¹	Universal Human Values-II: Understanding Harmony and Ethical Human Conduct	2	1	0	3	
Total Credits 23						
Semester – VI						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21CSS303T	Data Science	2	0	0	2	
21CSC303J	Software Engineering and Project Management	2	0	2	3	
21CSC304J	Compiler Design	2	0	2	3	
E	Professional Elective – III				3	
E	Professional Elective – IV				3	
O	Open Elective – II				3	
21CSP302L ¹	Project	0	0	6	3	
21CSP303T ¹	MOOC	3	0	0		
21PDM302L ¹	Employability Skills and Practices	0	0	2	0	
21LEM302T ¹	Indian Traditional Knowledge	1	0	0	0	
Total Credits 20						
Semester - VIII						
Course Code	Course Title	Hours / Week			C	
		L	T	P		
21CSP401L	Major Project	0	0	30	15	
21CSP402L	Major Project	0	0	20	10	
21CSP403L	Internship#	0	0	10	5	
Total Credits 15						

#Students have to register either 21CSP401L or 21CSP402L and 21CSP403L both in eighth semester