

ACADEMIC CURRICULA

POST GRADUATE DEGREE PROGRAMMES

Master of Technology

(Choice Based Flexible Credit System)

Regulations 2021

Volume – 21 Curriculum



SRM

INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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

Kattankulathur, Chengalpattu District 603203,

Tamil Nadu, India

21 M.Tech in Computer Science and Engineering with Specialization in Fullstack

21. (a) Department Vision Statement

Stmnt - 1	<i>To become a world-class department in imparting high-quality knowledge and providing students with a unique learning and research experience in Computer Science and Engineering.</i>
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21. (b) Department Mission Statement

Stmnt - 1	<i>To impart knowledge in cutting edge technologies in part with industrial standards.</i>
Stmnt - 2	<i>To collaborate with renowned academic institutions in research and development.</i>
Stmnt - 3	<i>To instill societal and ethical responsibilities in all professional activities.</i>

21. (c) Program Education Objectives (PEO)

PEO - 1	<i>Graduates will be able to demonstrate their knowledge and skills acquired in Computer Science and Engineering domain</i>
PEO - 2	<i>Graduates will be able to successfully pursue their research in reputed institutions</i>
PEO - 3	<i>Graduates will have the proficiency to adapt, contribute and innovate new technologies and systems in their job domains with appropriate professional skills</i>
PEO - 4	<i>Graduates will be ethically and socially responsible solution providers and entrepreneurs in Computer Science and other engineering disciplines.</i>
PEO - 5	<i>Graduates will have the ability to excel in their career producing outstanding contribution in Computer Science and fullstack applications.</i>

21. (d) Consistency of PEO's with Mission of the Department

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

21. (e) PO – Program Outcomes

PO - 1	<i>An ability to independently carry out research /investigation and development work to solve practical problems.</i>
PO - 2	<i>An ability to write and present a substantial technical report/document.</i>
PO - 3	<i>Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.</i>

21. (f) Consistency of PEO's with Program Outcomes (PO)

	Program Outcomes (PO)		
	1	2	3
PEO - 1	3	2	3
PEO - 2	3	3	2
PEO - 3	2	2	2
PEO - 4	2	2	2
PEO - 5	2	2	3

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

21. (g) Programme Structure: M.Tech in Computer Science and Engineering with Specialization in Fullstack

Professional Core Courses (C)						
Course Code	Course Title	Hours/Week			C	
		L	T	P		
21MAC503T	Discrete Mathematics and Probability Theory	3	1	0	4	
21CSC551J	Advanced Data Structures and Algorithms	3	0	2	4	
21CSC550J	Database Technology	3	0	2	4	
21CSC553J	Full Stack Development Frameworks	3	0	2	4	
21CSC511J	Web Technologies	3	0	2	4	
21IPC501J ²	Research Methodology	2	1	2	4	
21CSC601T ¹	Case Studies	3	0	0	3	
Total Credits					27	
Project Work, Internship In Industry / Higher Technical Institutions (P)						
Course Code	Course Title	Hours/Week			C	
		L	T	P		
21CSP501L	Specialization Project (OR)	0	0	40	20	
21CSP502L	Specialization Project	0	0	30	15	
21CSP503L	Domain Internship	0	0	10	5	
Total Credits					20	
100% assessment by the Department (¹)						
Course Code	Course Title	Hours/Week			C	
		L	T	P		
21CSC601T ¹	Case Studies	3	0	0	3	
21CSE600T ¹	Journal Publication	0	0	0	3	
Course Delivery by online mode (³)						
Course Code	Course Title	Hours/Week			C	
		L	T	P		
21CSE586T ³	REST APIs Development using Spring Framework	3	0	0	3	
21CSE587T ³	Full Stack Application Development using React and Spring Framework	3	0	0	3	
21CSE588T ³	Deploying Full Stack Application	3	0	0	3	
21CSE590T ³	Agile and DevOps	3	0	0	3	
21CSE595T ³	Web 3.0	3	0	0	3	
21CSE642T ³	Cloud Native Application Development	2	1	0	3	
21CSE644T ³	Web and Social Media Analytics	3	0	0	3	
21CSE645T ³	Server-Side Programming	3	0	0	3	
21CSE653T ³	Cloud Computing with Blockchain	3	0	0	3	

Professional Elective Courses (E) (Any 7 Courses)						
Course Code	Course Title	Hours/Week			C	
		L	T	P		
21CSE554T	Computer Networking	3	0	0	3	
21CSE585T	Front End Development Technologies	3	0	0	3	
21CSE586T ³	REST APIs Development using Spring Framework	3	0	0	3	
21CSE587T ³	Full Stack Application Development using React and Spring Framework	3	0	0	3	
21CSE588T ³	Deploying Full Stack Application	3	0	0	3	
21CSE589T	Mobile Application Development	3	0	0	3	
21CSE590T ³	Agile and DevOps	3	0	0	3	
21CSE595T ³	Web 3.0	3	0	0	3	
21CSE642T ³	Cloud Native Application Development	2	1	0	3	
21CSE643T	Microservices and Service Based Architectures	3	0	0	3	
21CSE644T ³	Web and Social Media Analytics	3	0	0	3	
21CSE645T ³	Server-Side Programming	3	0	0	3	
21CSE653T ³	Cloud Computing with Blockchain	3	0	0	3	
21CSE600T ¹	Journal Publication	0	0	0	3	
Total Credits					21	
Open Elective Courses (O)						
Course Code	Course Title	Hours/Week			C	
		L	T	P		
21CSO621T	Cyber Security	3	0	0	3	
21CSO622T	Big Data Analytics	3	0	0	3	
21CSO623T	Data Sciences	3	0	0	3	
Total Credits					3	
Assessment by Open Book Examination (²)						
Course Code	Course Title	Hours/Week			C	
		L	T	P		
21IPC501J ²	Research Methodology	2	1	2	4	

All elective courses may be studied under MOOC platform

¹ 100% assessment by the Department

² Assessment by Open Book Examination

³ Course Delivery through online mode

21. (h) Implementation Plan: M.Tech in Computer Science and Engineering with specialization in Fullstack

Semester - I						Semester - II					
Code	Course Title	Hours/Week			C	Code	Course Title	Hours/Week			C
		L	T	P				L	T	P	
21MAC503T	Discrete Mathematics and Probability Theory	3	1	0	4	21CSC550J	Database Technology	3	0	2	4
21CSC551J	Advanced Data Structures and Algorithms	3	0	2	4	21CSC511J	Web Technologies	3	0	2	4
21CSC553J	Full Stack Development Frameworks	3	0	2	4		Professional Elective-1				3
21IPC501J ²	Research Methodology	2	1	2	4						3
					3						3
Total Credits					16/19	Total Credits					11/17
Semester - III						Semester - IV					
Code	Course Title	Hours/Week			C	Code	Course Title	Hours/Week			C
		L	T	P				L	T	P	
21CSC601T ¹	Case Studies	3	0	0	3	21CSP501L	Specialization Project (OR)	0	0	40	20
	Professional Elective-2				3	21CSP502L	Specialization Project	0	0	30	15
					3	21CSP503L	Domain Internship	0	0	10	5
					3						3
					3						3
Total Credits					6/15	Total Credits					20/26
						# Students must register either 21CSP501L or 21CSP502L and 21CSP503L both in fourth semester					

Offered and can be enrolled in both ODD & EVEN semester					
Code	Course Title	Hours/Week			C
		L	T	P	
	Professional Elective-3				3
	Professional Elective-4				3
	Professional Elective-5				3
	Professional Elective-6				3
21CSE600T ¹	Journal Publication	0	0	0	3
	Professional Elective-7				3
	Open Elective	3	0	0	3

21. (i) Program Articulation Matrix: M.Tech in Computer Science and Engineering with Specialization in Fullstack

Course Code	Course Name	Programme Outcomes		
		1	2	3
21MAC503T	Discrete Mathematics and Probability Theory	3	3	-
21CSC551J	Advanced Data Structures and Algorithms	3	-	-
21CSC550J	Database Technology	2.3	3	3
21CSC553J	Full Stack Development Frameworks	2.5	2	2.3
21CSC511J	Web Technologies			
21CSC601T	Case Studies			
21CSE554T	Computer Networking	2.4	-	2.3
21CSE585T	Front End Development Technologies	1.7	-	3
21CSE586T	REST APIs Development using Spring Framework	3	-	3
21CSE587T	Full Stack Application Development using React and Spring Framework	3	-	3
21CSE588T	Deploying Full Stack Application	1.8	-	2
21CSE589T	Mobile Application Development	2.8	3	3
21CSE590T	Agile and DevOps	3	3	3
21CSE595T	Web 3.0	2.6	2	1.5
21CSE642T	Cloud Native Application Development	2.7	2	3
21CSE643T	Microservices and Service Based Architectures	2	-	2.8
21CSE644T	Web and Social Media Analytics	3	2	2.5
21CSE645T	Server-Side Programming	1	1	3
21CSE653T	Cloud Computing with Blockchain	3	2	3
21CSE600T	Journal Publication			
21IPC501J	Research Methodology	3	2.6	-
	Open Elective			
21CSP501L	Specialization Project			
21CSP502L	Specialization Project			
21CSP503L	Domain Internship			
Program Average				

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



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