

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

14. M.Tech in Artificial Intelligence and Data Science

14. (a) Department Vision Statement

Stmnt - 1	<i>To build a world-renowned academic platform in Computational Intelligence by providing unique learning and research experiences in collaboration with industries and world-class universities.</i>
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14. (b) Department Mission Statement

Stmnt - 1	<i>To envision in creating, acquiring, and disseminating engineering knowledge on computational intelligence to elevate a student into a professional by imparting knowledge on mathematics, computing sciences, artificial intelligence, and software engineering along with the skills of cognitive computing.</i>
Stmnt - 2	<i>To offer a unique learning environment through world class faculty, curriculum, modernized lab facilities, and an interactive classroom environment with real-time experience from industrial experts that leads to a computing career in the latest technologies.</i>
Stmnt - 3	<i>To uplift the innovative research and development in computational intelligence and its allied fields by collaborating with renowned academic institutions and industries.</i>
Stmnt - 4	<i>To produce graduates who are global innovators and leaders in the development of computational intelligence-based systems, along with the commitment to ethical responsibilities and lifelong learning.</i>

14. (c) Program Education Objectives (PEO)

PEO - 1	
PEO - 2	
PEO - 3	
PEO - 4	
PEO - 5	

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

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

14. (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>

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

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

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

14. (g) Programme Structure: M.Tech in Artificial Intelligence and Data Science

Professional Core Courses (C)						Professional Elective Courses (E) (Any 7 Courses)					
Course Code	Course Title	Hours/Week			C	Course Code	Course Title	Hours/Week			C
		L	T	P				L	T	P	
21CSC569J	Fundamentals of Artificial Intelligence	3	0	2	4	21CSE524T	Computer Vision Techniques	2	1	0	3
21CSC529T	Inferential Statistics	2	1	0	3	21CSE527T	Text Mining and Analytics	2	1	0	3
21CSC555J	Machine Learning Algorithms	3	0	2	4	21AIE532T	Soft Computing and its Applications	3	0	0	3
21CSC558J	Deep Learning Approaches	3	0	2	4	21AIE541T	Multimodal Machine Learning	3	0	0	3
21CSC574J	Big Data Analytics using Artificial Intelligence Technologies	3	0	2	4	21AIE538T	Artificial Intelligence for Industrial Applications	3	0	0	3
21IPC501J ²	Research Methodology	2	1	2	4	21CSE549T	Decision Making Under Uncertainty	3	0	0	3
21CSC601T ¹	Case Studies	3	0	0	3	21CSE557T ³	Streaming Data Analytics	2	1	0	3
Total Credits					26	21CSE591T ³	Advanced Data Visualization	2	1	0	3
						21CSE584T ³	Time Series Analysis and Forecasting	2	1	0	3
						21CSE583T ³	Natural Language Processing and its Applications	3	0	0	3
						21CSE647T ³	Artificial Intelligence for Ambient systems	3	0	0	3
						21CSE639T ³	Blockchain Technologies	2	1	0	3
						21CSE633T ³	Computer Vision on Edge Computing	2	1	0	3
						21CSE656T ³	Social Media Analytics	2	1	0	3
						21CSE658T ³	Large Language Models	3	0	0	3
						21CSE600T ¹	Journal Publication	0	0	0	3
Total Credits					26	Total Credits					21
						Open Elective Courses (O)					
Course Code	Course Title	Hours/Week			C	Course Code	Course Title	Hours/Week			C
		L	T	P				L	T	P	
21CSP501L	Specialization Project	0	0	40	20	21CSO621T	Cyber Security	3	0	0	3
(OR)						21CSO622T	Big Data Analytics	3	0	0	3
21CSP502L	Specialization Project	0	0	30	15	21CSO623T	Data Sciences	3	0	0	3
21CSP503L	Domain Internship	0	0	10	5	Total Credits					3
Total Credits					20						
						Course Delivery by online mode (³)					
Course Code	Course Title	Hours/Week			C	Course Code	Course Title	Hours/Week			C
		L	T	P				L	T	P	
21CSE557T ³	Streaming Data Analytics	2	1	0	3	21CSE583T ³	Natural Language Processing and its Applications	3	0	0	3
21CSE591T ³	Advanced Data Visualization	2	1	0	3	21CSE647T ³	Artificial Intelligence for Ambient systems	3	0	0	3
21CSE584T ³	Time Series Analysis and Forecasting	2	1	0	3	21CSE639T ³	Blockchain Technologies	2	1	0	3
21CSE583T ³	Natural Language Processing and its Applications	3	0	0	3	21CSE633T ³	Computer Vision on Edge Computing	2	1	0	3
21CSE647T ³	Artificial Intelligence for Ambient systems	3	0	0	3	21CSE656T ³	Social Media Analytics	2	1	0	3
21CSE639T ³	Blockchain Technologies	2	1	0	3	21CSE658T ³	Large Language Models	3	0	0	3
21CSE633T ³	Computer Vision on Edge Computing	2	1	0	3						
21CSE656T ³	Social Media Analytics	2	1	0	3						
21CSE658T ³	Large Language Models	3	0	0	3						
						100% assessment by the Department (¹)					
Course Code	Course Title	Hours/Week			C	Course Code	Course Title	Hours/Week			C
		L	T	P				L	T	P	
21CSC601T ¹	Case Studies	3	0	0	3	21CSC600T ¹	Journal Publication	0	0	0	3
21CSC600T ¹	Journal Publication	0	0	0	3						

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

14. (h) Implementation Plan: M.Tech in Artificial Intelligence and Data Science

Semester - I						Semester - II					
Code	Course Title	Hours/ Week				Code	Course Title	Hours/ Week			
		L	T	P	C			L	T	P	C
21CSC569J	Fundamentals of Artificial Intelligence	3	0	2	4	21CSC558J	Deep Learning Approaches	3	0	2	4
21CSC529T	Inferential Statistics	2	1	0	3	21CSC574J	Big Data Analytics using Artificial Intelligence Technologies	3	0	2	4
21CSC555J	Machine Learning Algorithms	3	0	2	4		Professional Elective-1				3
21IPC501J ²	Research Methodology	2	1	2	4						3
					3						3
Total Credits					15/18	Total Credits					11/17
Semester - III						Semester - IV					
Code	Course Title	Hours/ Week				Code	Course Title	Hours/ Week			
		L	T	P	C			L	T	P	C
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

14. (i) Program Articulation Matrix: M.Tech in Artificial Intelligence and Data Science

Course Code	Course Name	Programme Outcomes		
		1	2	3
21CSC569J	Fundamentals of Artificial Intelligence	1.6	0.8	0.6
21CSC529T	Inferential Statistics	2	2	1.6
21CSC555J	Machine Learning Algorithms	1.8	2.8	2.6
21CSC558J	Deep Learning Approaches	2.5	2	2
21CSC574J	Big Data Analytics using Artificial Intelligence Technologies	2	1.8	0.6
21CSC601T	Case Studies			
21CSE524T	Computer Vision Techniques			
21CSE527T	Text mining and Analytics			
21AIE532T	Soft Computing and its Applications			
21AIE541T	Multimodal Machine Learning			
21AIE538T	Artificial Intelligence for Industrial Applications			
21CSE549T	Decision Making Under Uncertainty			
21CSE557T	Streaming Data Analytics	2	2	2
21CSE591T	Advanced Data Visualization	2.8	1.2	0.6
21CSE584T	Time Series Analysis and Forecasting	2	2	2
21CSE583T	Natural Language Processing and its Applications	3	-	-
21CSE647T	Artificial Intelligence for Ambient systems	1.2	0.6	1
21CSE639T	Blockchain Technologies	2	2	3
21CSE633T	Computer Vision on Edge Computing	2	2	2
21CSE656T	Social Media Analytics	3	2.3	1
21CSE658T	Large Language Models	2	1.8	1.4
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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