

ACADEMIC CURRICULA
UNDERGRADUATE/ INTEGRATED
POST GRADUATE DEGREE
PROGRAMMES

(With exit option of Diploma)

(Choice Based Flexible Credit System)

Regulations 2021

Volume – 1

(Revised on July 2024)



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

26. B.Tech. in Computer Science and Engineering with Specialization in Gaming Technology

26. (a) Mission of the Department

Mission Stmt – 1	<i>To impart knowledge in cutting edge Computer Science and Engineering technologies in par with industrial standards.</i>
Mission Stmt – 2	<i>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</i>
Mission Stmt – 3	<i>To demonstrate strong communication skills and possess the ability to design computing systems individually as well as part of a multidisciplinary teams.</i>
Mission Stmt – 4	<i>To instill societal, safety, cultural, environmental, and ethical responsibilities in all professional activities</i>
Mission Stmt – 5	<i>Game Technology creates and supports game-based education that empowers the students for life-long learners to achieve Academic, social, emotional and personal success.</i>

26. (b) Program Educational Objectives (PEO)

PEO – 1	<i>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.</i>
PEO – 2	<i>Graduates will be able to successfully pursue higher education in reputed institutions.</i>
PEO – 3	<i>Graduates will have the ability to adapt, contribute and innovate new technologies and systems in the key domains of Computer Science and Engineering.</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 be educated with Game Programming and adopt emerging technology with Gaming Industry</i>

26. (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	-	-	-	-
PEO - 2	-	-	2	-	-
PEO - 3	-	3	3	-	-
PEO - 4	-	-	-	2	-
PEO - 5	-	-	-	-	3

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

26. (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	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	-	-	2	-	3	-	-	-	3	-	2	3	3	3	3

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

PSO – Program Specific Outcomes (PSO)

PSO - 1	<i>To understand, analyze, design, and develop computing solutions by applying fundamental concepts of computer science and engineering.</i>
PSO - 2	<i>To apply computing principles, skills and practices to develop solutions using logical and reasoning skills, for real life problems.</i>
PSO - 3	<i>To Identify and apply Emerging Technologies in the Gaming Industry.</i>

26. (e) Program Structure: B.Tech. in Computer Science and Engineering with Specialization in Gaming Technology

Humanities & Social Sciences including Management Courses (H)						
Course Code	Course Title	Hours / Week				
		L	T	P	C	
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	
21GNH401T	Behavioral Psychology	2	1	0	3	
Total Credits						13

Basic Science Courses (B)						
Course Code	Course Title	Hours / Week				
		L	T	P	C	
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		
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

Engineering Science Courses (S)						
Course Code	Course Title	Hours / Week				
		L	T	P	C	
21CSS101J	Programming for Problem Solving	3	0	2	4	
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	
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

Professional Core Courses (C)						
Course Code	Course Title	Hours / Week				
		L	T	P	C	
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	
21CSC306J	Software Engineering Perspectives in Computer Game Development	2	0	2	3	
21CSC304J	Compiler Design	2	0	2	3	
21CSC307T	Deep Learning in Gaming and Application	2	1	0	3	
Total Credits						42

Project Work, Seminar, Internship in Industry / Higher Technical Institutions (P)						
Course Code	Course Title	Hours / Week				
		L	T	P	C	
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		15
21CSP402L	Major Project	0	0	20	10	
21CSP403L	Internship#	0	0	10	5	
Total Credits						19

Open Elective Courses (O) (Any 3 courses)						
Course Code	Course Title	Hours / Week				
		L	T	P	C	
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

Non Credit Courses (M)						
Course Code	Course Title	Hours / Week				
		L	T	P	C	
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)						Professional Elective Courses (E)					
Course Code	Course Title	Hours / Week			C	Course Code	Course Title	Hours / Week			C
		L	T	P				L	T	P	
21CSE235T	Game Design, Prototyping and Development	3	0	0	3	21CSE345T	Game System Integration	3	0	0	3
21CSE236T	GPU Programming	3	0	0	3	21CSE346T	Design Art and Theory	3	0	0	3
21CSE237T	Art Creation for Games	2	1	0	3	21CSE439T	Virtual Reality and Augmented Reality	2	1	0	3
21CSE238T	Storytelling for Marketing	2	1	0	3	21CSE440T	Computer Animation and Simulation	3	0	0	3
21CSE339T	Game Artificial Intelligence	3	0	0	3	21CSE441T	Mobile Game Development	2	1	0	3
21CSE340T	Analytics and Decision Making	2	1	0	3	21CSE442T	Game Monetization Techniques	2	1	0	3
21CSE341T	Computer Graphics	2	1	0	3	21CSE443T	Game Production and Publishing	2	1	0	3
21CSE342T	Gaming Studio for Business	2	1	0	3	21CSE444T	Applied Gamification	3	0	0	3
21CSE343T	Web Services Development for Games	3	0	0	3	21CSE445T	Metaverse Fundamentals	2	1	0	3
21CSE344T	3D Game Development with Unity	2	1	0	3	21CSE446T	Digital Marketing and Publishing	3	0	0	3
						Total Credits					24



26. (g) Implementation Plan: B.Tech. in Computer Science and Engineering with Specialization in Gaming Technology

Semester – I					
Course Code	Course Title	Hours / Week			
		L	T	P	C
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 – II					
Course Code	Course Title	Hours / Week			
		L	T	P	C
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 – III					
Course Code	Course Title	Hours / Week			
		L	T	P	C
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 – IV					
Course Code	Course Title	Hours / Week			
		L	T	P	C
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 – V					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21MAB302T	Discrete Mathematics	3	1	0	4
21CSC301T	Formal Language and Automata	3	0	0	3
21CSC302J	Computer Networks	3	0	2	4
21CSC307T	Deep Learning in Gaming and Application	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 – VI					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21CSS303T	Data Science	2	0	0	2
21CSC306J	Software Engineering Perspectives in Computer Game Development	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 – VII					
Course Code	Course Title	Hours / Week			
		L	T	P	C
21GNH401T	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 – VIII					
Course Code	Course Title	Hours / Week			
		L	T	P	C
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



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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

Kattankulathur, Chengalpattu District 603203, Tamil Nadu, India