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 AND TECHNOLOGY

(Deemed to be University u/s 3 of UGC Act, 1956)
Kattankulathur, Chengalpattu District 603203,
Tamil Nadu, India



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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	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.
	To instill societal, safety, cultural, environmental, and ethical responsibilities in all professional activities
Mission Stmt – 5	Game Technology creates and supports game-based education that empowers the students for life-long learners to achieve Academic, social, emotional and personal success.

26. (b) Prog	gram 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 be educated with Game Programming and adopt emerging technology with Gaming Industry

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	5. M	S Property of		- ·
PEO - 2	E777	11 TO 1 TO 1	2	(2007)。 F	-
PEO - 3	War	3	3	1.00	-
PEO - 4	- 14/10	(金の) (おとり) 乗		2	
PEO - 5		100			3

^{3 –} High Correlation, 2 – Medium Correlation, 1 – Low Correlation

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

			1		Pro	gram Ou	tcomes (PO)					Prog	gram <mark>Spe</mark>	ecific
	1	2	3	4	5	6	7	8	9	10	11	12	Out	com <mark>es (</mark> F	SO)
	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	1-0Sd	PS0-2	PSO-3
PEO - 1	3	-	•	1	-	2	-	3	2	3			3	3	2
PEO - 2	-	2	2	٠.,	3	-	3	2	-		•	-	2	3	3
PEO - 3	-	3	3	2	· · · · · ·				, o. o *	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)

PSU - 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 apply Emerging Technologies in the Gaming Industry.

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

Technology	7
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	Humanities & Social Sciences						Basic Science Courses (B)				
	including Management Courses (H)					Course	Course		lours		
Course	Course		ours			Code	Title	. \	Wee		
Code	Title	V	Veel	P	_		Semiconductor Physics and	L	T	Р	С
211 FH101T	Communicative English	2	1	0	3		Computational Methods	3	1	2	5
21LEH102T				U	3		Chemistry	3	1	2	5
21LEH103T							Calculus and Linear Algebra	3	1	0	4
	German						Advanced Calculus and Complex				
21LEH105T	Japanese	2	1	0	3	ZIMABIUZI	Analysis	3	7	0	4
21LEH106T	Korean						Transforms and Boundary Value	3	1	0	4
21LEH107T							Problems		Ľ.		Ľ
21LEH108T		_	_				Probability and Queueing Theory	3	1	0	4
	Philosophy of Engineering	1	0	2	2		Discrete Mathematics Introduction to Computational Biology	3	0	0	2
	Social Engineering	2	0	0	3	ZIDIDIUZI		⊺∠ 「otal	-	-	
ZIGNM4011	Behavioral Psychology		Cro			7 7 7 7 7		Olai	CIE	นแจ	JZ
		nai	CIE	uits	13						
	Engineering Science Courses (S)			. 1			Professional Core Courses (C)		1	. ,	
Course	Course		ours Veel			Course	Course		lours Nee		
Code	Title	I V	vee T	P	С	Code	Title		vee T	к Р	С
21CSS101J	Programming for Problem Solving	3	0	2	4		Object Oriented Design and	-			
21MES101L		0	0	4	2	21CSC101T	Programming	2	1	0	3
21MES102L		0	0	4	2	21CSC201J		3	0	2	4
21EES101T		3	1	0	4	21CSC202J	Operating Systems	3	0	2	4
21CSS201T	Commutar Organization and	3	1	0	4	21CSC203P		3	1	0	4
210332011	Architecture	3	7	U	4	21CSC204J	Design and Analysis of Algorithms	3	0	2	4
21DCS201P		1	2	0	3	21CSC205P		3	1	0	4
21CSS303T	Data Science	2	0	0	2	21CSC206T		2	1	0	3
	To	tal	Cre	dits	21	21CSC301T		3	0	0	3
	N 0 170 (M)					21CSC302J		3	0	2	4
	Non Credit Courses (M)		lours	. /		21CSC306J	Software Engineering Perspectives in	2	0	2	3
Course	Course		iours Nee				Computer Game Development	2	0	2	3
Code	Title	_ '	T	Р	С	21CSC304J	Compiler Design Deep Learning in Gaming and	2	0	2	3
21PDM101L 1	Professional Skills and Practices	0	0	2		21CSC307T	Application	2	1	0	3
	General Aptitude	0	0	2				otal	Cre	dits	42
	Verbal Reasoning	0	0		_	D : (14)					
	Critical and Creative Thinking Skills	0	0	2	0	Project Wo	rk, Seminar, Internship in Industry / Hig	jher	Tecl	hnic	al
21PDM301L 1	Analytical and Logical Thinking Skills	0	0	2			Institutions (P)	Lام	ours	,	
21PDM302L 1	Employability Skills and Practices	0	0	2		Course	Course		/eek		
21CYM101T 1	Environmental Science	1	0	0	0	Code	Title	1	T	Р	С
21LEM101T ¹	Constitution of India	1	0	0	0	21GNP301I	1 Community Connect	0	0	2	1
	Universal Human Values – Introduction	1	0	0	0	21CSP302L		-	0	6	-
21LEM201T ¹	Professional Ethics	1	0	0	0	21CSP303T			0	0	3
041 5140005 1	Universal Human Values-II:	_	,	_	_	21CSP401L		-	-	30	15
21LEM202T ¹	,	2	1	0	3	21CSP402L	Major Project	-		20	10
241 EM2047 1	Human Conduct	1	0	0	0	21CSP403L	Internship#	-	0	10	5
	Indian Art Form Indian Traditional Knowledge	1	0	0	0		To	otal	Crec	lits	19
	Physical and Mental Health using Yoga	I	U	U	U		Open Florific Co. (C)				
	National Service Scheme						Open Elective Courses (O)				
	National Cadet Corps	0	0	2	0		(Any 3 courses)		dour.	2/	
	National Sports Organization					Course	Course		lours Neel		
		tal	Cre	dits	03	Code	Title	Ε'		к Р	С
						21CSO351T	Web Programming	2	1	0	3
							Python Programming	2	1	0	3
							Mobile Application Development	2	1	0	3
							Data Analytics	2	1	0	3
								otal	Cre	dits	
								-	-		

	Professional Elective Courses (E) (Any 8 Courses)						Professional Elective Courses (E)				
Course Code	Course Title		ours Veel	(Course Code	Course Title		lours Nee	k	
		L	Τ	Р	С			L	T	Р	С
111.567351	Game Design, Prototyping and	3	0	0	3		Game System Integration	3	0	0	3
	Development	_	•		Ů	21CSE346T	Design Art and Theory	3	0	0	3
21CSE236T	GPU Programming	3	0	0	3	21CSE439T	Virtual Reality and Augmented Reality	2	1	0	3
21CSE237T	Art Creation for Games	2	1	0	3	21CSE440T	Computer Animation and Simulation	3	0	0	3
	Storytelling for Marketing	2	1	0	3	21CSE441T	Mobile Game Development	2	1	0	3
21CSE339T	Game Artificial Intelligence	3	0	0	3	21CSE442T	Game Monetization Techniques	2	1	0	3
21CSE340T	Analytics and Decision Making	2	1	0	3	21CSE443T	Game Production and Publishing	2	1	0	3
21CSE341T	Computer Graphics	2	1	0	3	21CSE444T	Applied Gamification	3	0	0	3
21CSE342T	Gaming Studio for Business	2	1	0	3	21CSE445T	Metaverse Fundamentals	2	1	0	3
21CSE343T	Web Services Development for Games	3	0	0	3	21CSE446T	Digital Marketing and Publishing	3	0	0	3
21CSE344T	3D Game Development with Unity	2	1	0	3		•	Total	Cre	dits	24



26. (f) Programme Articulation: B.Tech. in Computer Science and Engineering with Specialization in Gaming Technology

Techn	orogy				Р	rogra	m Ou	tcome	s (PO))					PSO	
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course Code	Course Name	Engineering Knowledge	Problem Analysis	-	Conduct investigations of complex problems	Modern Tool Usage	The engineer and society	Environment & Sustainability	Ethics	ndividual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO-1	PSO-2	PSO-3
21CSS101J	Programming for Problem Solving	2	3	-	-		1 -	-	_	-	-	-	2	-	3	-
21CSS303T		-	-	-	-		-		-	-	-	-	-	1	1	-
	Computer Organization and Architecture	3	2	-	-	-	-	-		4-	-	-	-	1	2	1
	Data Structures and Algorithms	2	3	3	1	-	-	-			-		-	1	1	2
	Object Oriented Design and Programming	-51	2	2	Jif	2		_	-	-	7	_	3	-	2	2
	Design and Analysis of Algorithms	2	1	2	1	7.1	7.	4		-	3	-	3	3	1	-
	Operating Systems	3	3	3	2	-	رية		ħ.	-	-		3	2	-	_
	Software Engineering and Project	0	Ť					4.					Ū			
210303030	Management — Management	-	3	2	-	-	Ħ.	-	۲,	2	-	2	-	3	-	-
	Advanced Programming Practice	3	2	2	1	2	-	-	- "	1	4	-	-	2	<u>L</u> -	-
21CSC301T	Formal Language and Automata	2	2	2	190	-	•	-		-	7	-	- 1	-	3	-
21CSC302J	Computer Networks	3			2	3	-	-	-	-		E4.	-	1	-	-
21CSC205P	Database Management Systems	-3	2	2	 		-	-	-	4.	- 5.	-	-	2	1	-
21CSC304J	Compiler Design	3	3	2	3	2	- 1	-	-	-	-	75	-	-	1	-
	Artificial Intelligence	- 1	2	3	-26		-	-	•	-	L -	4	_	1	2	-
21CSC307T	Deep Learning in Gaming and Application	3	2	-3	. 3	3	ш;								2	2
21CSE225T	Game Design, Prototyping and Development		3	3	2	7.			ř	1	2	7	-			
	GPU Programming	1	2	3	950	2				100				4		
	Art Creation for Games	3	2	2	117	2	-2		. 66	· ·			_	2	2	2
	Storytelling for Marketing	2		2	2		Ū.	177			2			2	2	
	Game Artificial Intelligence	3	- 2	3	_	3		117	-	- 1	_			2	2	3
	Analytics and Decision Making	2	2	2	-	3	2							2	2	U
	Computer Graphics	-3	2	-		U								2		2
	Gaming Studio for Business	2	2	3	3	2	100	2		2						
	Web services development for Games		2	J	J	2										
	3D Game Development with Unity	2	2	3	2	3								2	2	
	Game System Integration	2	2	3	2	3										
	Design art and theory	3	2	J		<u> </u>						-	-		-	
	Virtual Reality and Augmented Reality	3	3	2	2	3					ľ	-	-	2		2
	Computer Animation and Simulation	2	2	2	2	J					-	7				
2103E4401	Mobile Game Development	3	2								-			2		2
				2	2						١.			2		
	Game Monetization Techniques	3	- 3	2	3	2				-		2			0	2
	Game Production and Publishing	3	2	3	2	3			4	17	1	۴.,			2	2
	Applied Gamification	2	3	2	1	2	0			ш		H				2
	Metaverse Fundamentals	2	2	3	2	3	2			2	2			F		
	Digital marketing and Publishing	2	0	3	2	0	2	0	0	3	3	0	0	0	0	0
21CSP302L		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21CSP303T		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Major Project	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
21CSP402L	Internship	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
<u> </u>	Program Average	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

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

	Semester – I					1		Semester – II			
0		Н	lour	rs /		11	0		Н	our	s/
Course Code	Course Title		Ve	ek P] c	 	Course Code	Course Title	I	Vee T	k P
21LEH102T	Chinese	Ħ	ť	†		ı	21LEH101T	Communicative English	2	1	0
21LEH103T						П		Advanced Calculus and Complex			r
21LEH104T						П	21MAB102T	Analysis	3	1	0
21LEH105T	Japanese	_ 2) 1	1 0	3	:	045)/54004	Semiconductor Physics and	_	_	
21LEH106T		7	· '			П	21PYB102J	Computational Methods	3	1	2
21LEH107T						П	21MES102L 1	Engineering Graphics and Design	0	0	4
21LEH108T						П	21EES101T	Electrical and Electronics Engineering	3	1	0
21GNH101J		1	1 0	2	2	,		Object Oriented Design and		_	
21MAB101T		3		1 0	4		21CSC101T	Programming	2	1	0
21CYB101J		3			5		21CYM101T 1	Environmental Science*	1	0	0
21BTB102T		2		_	2		21PDM102L 1	General Aptitude*	0	0	2
21CSS101J		3		_	4	_	21LEM101T 1	Constitution of India	1	0	0
21MES101L ¹		0	_		2	_			otal	Cre	dit
21PDM101L 1		0		2	0						
21GNM101L		T		1-		1		Semester – IV			
21GNM101L		-				П		Centester – IV		Hou	re /
21GNM103L		- 0	0 0	2	0	1	Course	Course		We	
21GNM104L		-				П	Code	Title	F	ΤT	
21014W101E		tal C	rec	dite	22	fi	21MAB204T	Probability and Queueing Theory	3	<u> </u>	
_		ui o	,,,,,,	uito		_	21CSC204J	Design and Analysis of Algorithms	3	_	
	Semester – III					_ [21CSC205P 1	Database Management Systems	3		_
Course	Course		our				21CSC206T	Artificial Intelligence	2		
Code	Title	٧	Vee	k	ļ		E	Professional Elective-I		+	
Code		L	T	Р	С	;	21PDH209T 1	Social Engineering	2) () (
21MAB201T	Transforms and Boundary Value	3	1	0	4	Л	21PDM2091	Critical and Creative Thinking Skills	0		
	Problems	3	'	U	4	Ц	Z IPDIVIZUZL 1	Universal Human Values-II:	0	, 0	′ 4
21DCS201P ¹	Design Thinking and Methodology	1	2	0	3	П	21LEM202T 1		1	2 1	10
21CSS201T	Computer Organization and Architecture	3	1	0	4	.]	ZILEWIZUZI	Understanding Harmony and Ethical Human Conduct	4	'	
21CSC201J	Data Structures and Algorithms	3	0	2	4				Γotal	C	- d:4
21CSC202J	Operating Systems	3	0	2	4	.			otai	CIT	euit
21CSC203P 1	Advanced Programming Practice	3	1	0	4	.]		Semester – VI			
21LEM201T ¹	Professional Ethics	1	0	0	0	7	0	0	H	ours	s /
21PDM201L ¹	Verbal Reasoning	0	0	2	0		Course	Course	٧	Vee	k
	Т	otal	Cre	dits	23	3	Code	Title	L	Т	Р
						Ħ	21CSS303T	Data Science	2	0	0
	Semester – V					٦		Software Engineering Perspectives in			_
		Н	our	s/	l	٦		Computer Game Development	2	0	2
Course	Course		Vee					Compiler Design	2	0	2
Code	Title	ΠĪ	T	ΪP	С	:		Professional Elective – III			
21MAB302T	Discrete Mathematics	3	1	_	4	_		Professional Elective – IV			
	Formal Language and Automata	3	0	0	3	_		Open Elective – II			
	Computer Networks	3	0		4		21CSP302L 1		0	0	6
	Deep Learning in Gaming and Application		1	-	3	_	21CSP303T ¹		3	0	0
	Professional Elective – II		<u>'</u>	U	3			Employability Skills and Practices	0	0	2
0	Open Elective – I				3	_		Indian Traditional Knowledge	1	0	0
	Community Connect	0	0	2	1				otal		
	Analytical and Logical Thinking Skills	0	0			—				-	
	Indian Art Form	1	0	0	0	—		Semester - VIII			
ZILEWISUII		otal	•	•	-	_	Course	Course		urs	
		olai (CIE	uito		븨	Code	Title	W	eek/	
				441		Щ					Р
	Semester – VII					٦	21CSP401L	Major Project			30
		H	our	s/		1	21CSP402L		0	0	20
	•						21CSP403L				10
Course	Course	W	VEH		J	- 11		To	stal (dite
Course Code	Course Title	I V			C	`			otal (<u>ire</u> c	<u>ui</u> tə
Code	Title	L	Τ	Р			#Studente herre				
Code 21GNH401T	Title Behavioral Psychology	L 2		Р	3	}		to register either 21CSP401L or 21CSP4			
Code 21GNH401T E	Title Behavioral Psychology Professional Elective – V	L	Τ	Р	3	}					
Code 21GNH401T E E	Title Behavioral Psychology Professional Elective – V Professional Elective – VI	L	Τ	Р	3	; ;		to register either 21CSP401L or 21CSP4			
Code 21GNH401T E E E	Behavioral Psychology Professional Elective – V Professional Elective – VI Professional Elective – VII	L	Τ	Р	3 3 3	<u>~</u> ~ ~ ~		to register either 21CSP401L or 21CSP4			
Code 21GNH401T E E E E	Title Behavioral Psychology Professional Elective – V Professional Elective – VI	L	Τ	Р	3	<u>~</u> ~ ~ ~ ~		to register either 21CSP401L or 21CSP4			

Total Credits 18



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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

Kattankulathur, Chengalpattu District 603203, Tamil Nadu, India