

ACADEMIC CURRICULA

UNDERGRADUATE/ INTEGRATED POST GRADUATE DEGREE PROGRAMMES

(With Multiple Exit Options)

(Choice Based Flexible Credit System)

Regulations 2026

Volume – 1



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

B.Tech. - Electronics and Communication Engineering

1. (a) Mission of the Department / School

Mission Stmt – 1	To consistently uphold the highest standards of educational process aimed at imparting knowledge and skills related to electronic design and communication engineering fostering successful practicing engineers nationally and globally.
Mission Stmt – 2	To stay at the forefront of technological advancements and adapt our programs to provide cutting-edge learning experiences through collaborative research and innovation in electronics and communication and interdisciplinary fields through interaction with research institutes and industry to align with the evolving demand of society
Mission Stmt – 3	To attract qualified professionals in a rewarding way and enable them to foster the growth of individuals as good leaders, technocrats and entrepreneurs who are technically skilled and committed to ethical principles in their professional endeavours

1. (b) Program Educational Objectives (PEO)

PEO – 1	Establish themselves as successful and creative practicing professional engineers, both nationally and globally, in the related fields of Electronics and Communication Engineering.
PEO – 2	Apply the acquired knowledge and the skills in solving real-world engineering problems; develop novel technology and design products which are economically feasible and socially relevant.
PEO – 3	Develop an attitude of lifelong learning for sustained career advancement and adapt to the changing multidisciplinary profession
PEO – 4	Demonstrate leadership qualities, effective communication skills, and to work in a team of enterprising people in the multidisciplinary and multicultural environment with strong adherence to professional ethics

1. (c) Mission of the Department / School to Program Educational Objectives (PEO) Mapping

	Mission Stmt – 1	Mission Stmt – 2	Mission Stmt – 3
PEO – 1	3	2	2
PEO – 2	3	3	3
PEO – 3	2	2	2
PEO – 4	1	2	3

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

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

	Program Outcomes (PO)											PSO		
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PSO-1	PSO-2	PSO-3
PEO – 1	3	3	2	-	2	-	-	-	-	-	-	3	1	-
PEO – 2	2	3	3	2	-	3	-	-	-	-	-	2	3	-
PEO – 3	-	-	-	2	3	2	-	-	2	-	3	-	-	2
PEO – 4	-	-	-	-	-	-	3	3	3	2	-	-	-	3

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

Program Outcomes (PO)

PO-1	Engineering Knowledge
PO-2	Problem Analysis
PO-3	Design / Development of Solutions
PO-4	Conduct Investigations of Complex Problems
PO-5	Engineering Tool Usage
PO-6	The Engineer and the World

PO-7	Ethics
PO-8	Individual & Collaborative Teamwork
PO-9	Communication
PO-10	Project Mgt. & Finance
PO-11	Lifelong Learning

Program Specific Outcomes (PSO)

PSO-1	Demonstrate leadership qualities, effective communication skills, and to work in a team of enterprising people in the multidisciplinary and multicultural environment with strong adherence to professional ethics
PSO-2	Professional Skills: Should have the capability to develop competence in using electronic modern design tools (both software and hardware) for the design and analysis of complex electronic systems in furtherance to research activities.
PSO-3	Successful Career and Entrepreneurship: Should be able to understand the need for new skills to accommodate the rapidly changing industry research pattern in this field to have a successful career and to sustain passion and zeal for real-world applications using optimal resources as an entrepreneur.

1. (e) Program Structure : B.Tech. - Electronics and Communication Engineering (Credits-160)

Discipline Courses (B/E/C)						Discipline Skill Elective Courses (D)					
Code	Course Title	Hours / Week			C	Code	Course Title	Hours / Week			C
		L	T	P				L	T	P	
Basic Science Courses						(Any 8 Courses)					
26PYB1002J	Electromagnetism, Quantum Physics and Optics for Engineers	3	0	2	4	26ECD2001J	Python and Scientific Python	3	0	2	4
26CYB1001J	Chemistry	2	1	2	4	26ECD2002J	PCB Design, Fabrication and Manufacturing	3	0	2	4
26BTB1002T	Biology	2	0	0	2	26ECD2003J	Semiconductor Device Modeling	3	0	2	4
Mathematics Courses						26ECD3001J	Micro- and Nano-Fabrication Technologies	3	0	2	4
26MAB1001T	Calculus and Linear Algebra	3	1	0	4	26ECD3002T	Flexible Electronics	3	1	0	4
26MAB1002T	Advanced Calculus and Complex Analysis	3	1	0	4	26ECD3003J	Electronic Packaging	3	0	2	4
26MAB2001T	Transforms and Boundary Value Problems	3	1	0	4	26ECD3004J	Scripting Languages for Electronic Design Automation	3	0	2	4
26MAB2003J	Probability and Statistics	3	0	2	4	26ECD3005T	Software Defined Networks and Its Technology	3	1	0	4
26MAB1003T	Discrete Mathematics	3	1	0	4	26ECD3006T	Industrial Electronics	3	1	0	4
Engineering Science Courses						26ECD3007T	Next Generation Electronic Devices at Nanoscale	3	1	0	4
26CSE1001T	Data Science and Artificial Intelligence	2	1	0	3	26ECD3008T	5G Technology-I	3	1	0	4
26EEE1001T	Electrical and Electronics Engineering	3	0	0	3	26ECD3009T	RADAR and Navigational AIDS	3	1	0	4
26MEE1002L	Engineering Graphics	0	0	4	2	26ECD3010T	5G Technology-II	3	1	0	4
26CSE1002J	Programming for Problem Solving	2	0	2	3	26ECD3011J	Software Defined Radio Through GNU Platform	3	0	2	4
26MEE1001L	Workshop Practice	0	0	4	2	26ECD3012T	Satellite Communication	3	1	0	4
26DCE1001T	Design Thinking and Methodology	2	0	0	2	26ECD3013J	Digital Image and Video Processing	3	0	2	4
Professional Core Courses						26ECD3014J	Adaptive Signal Processing	3	0	2	4
26ECC1001J	Solid State Devices	3	0	2	4	26ECD3015J	RISC -V Processor Design and SoC Integration	3	0	2	4
26ECC2001J	Engineering Electromagnetics and Its Application	3	0	2	4	26ECD3016J	Programming with Data Structures	3	0	2	4
26ECC2002J	Digital Logic Design	3	0	2	4	26ECD3017J	RTOS Programming	3	0	2	4
26ECC2003J	Analog Electronic Circuit Design	3	0	2	4	26ECD3018J	IoT System Design and Protocols	3	0	2	4
26ECC2004J	Signal Processing	3	0	2	4	26ECD3019J	Data Communication and 5G Networks	3	0	2	4
26ECC2005J	Communication Systems	3	0	2	4	26ECD3020T	Cryptographic Techniques and Network Security	3	1	0	4
26ECC2006J	Processor Architecture and Interfaces	3	0	2	4	26ECD3021J	RF System Design	3	0	2	4
26ECC3001T	Microwave and Wireless Communication	3	0	0	3	26ECD4001J	Design Verification Using System Verilog	3	0	2	4
26ECC3002J	Optical Communication Systems	3	0	2	4	26ECD4002T	System and Network on Chip	3	1	0	4
26ECC3003L	Microwave and Wireless Communication Lab	0	0	4	2	26ECD4003J	Machine Learning for VLSI Design and Automation	3	0	2	4
26ECC3004J	VLSI Design	3	0	2	4	26ECD4010J	Multimedia Compression Techniques	3	0	2	4
26ECC3005T	Computer Communication Networks	3	0	0	3	26ECD4011J	Wavelets and Signal Processing	3	0	2	4
Total Learning Credits					89	26ECD4012J	DSP System Design	3	0	2	4
Skill Enhancement Courses (S)						26ECD4013J	Embedded AI Systems	3	0	2	4
Code	Course Title	Hours / Week			C	Code	Course Title	Hours / Week			C
		L	T	P				L	T	P	
(Any 4 Courses)						26ECD4014J	Data Analytics Using R	3	0	2	4
26LCS1001L	Communicative and Analytical Competence in English	1	0	2	2	26ECD4015J	Cybersecurity in IoT	3	0	2	4
26LCS2001L	Engineering Careers and Professional Skills	1	0	2	2	26ECD4016J	Pattern Recognition and Neural Networks	3	0	2	4
26LCS2002L	Social Responsibility and Innovation	1	0	2	2	Total Learning Credits 32					
26LCS2002T	Public Speaking and Leadership	1	1	0	2	Ability Enhancement Courses (A)					
26LCS2004T	Gender and Society	1	1	0	2	Code	Course Title	Hours / Week			C
26MAS2001T	Analytical and Logical Thinking Skills	1	1	0	2			L	T	P	
Total Learning Credits					8	(2 Courses)					
Multidisciplinary Skill Courses (M) – Open Electives						26LCA1001J	Professional English for Engineers	2	0	2	3
Code	Course Title	Hours / Week			C	26LCA1002J	Chinese	2	0	2	3
		L	T	P		26LCA1003J	French				
(Any 3 Courses)						26LCA1004J	German				
26ECM2001T	Short Range Wireless Communication	3	0	0	3	26LCA1005J	Japanese				
26ECM2002T	Electronic Circuits and Systems	3	0	0	3	26LCA1006J	Korean				
26ECM2003T	PCB Design and Manufacturing	3	0	0	3	26LCA1007J	Spanish				
26ECM3001T	Fiber Optics and Optoelectronics	3	0	0	3	26LCA1008J	Russian				
26ECM3002T	Embedded System Design Using Arduino	3	0	0	3	Total Learning Credits 6					
26ECM3003T	Embedded System Design Using Raspberry PI	3	0	0	3	Internship / Project (P)					
26ECM3004T	3D Printing Hardware and Software	3	0	0	3	Code	Course Title	Hours / Week			C
Total Learning Credits 9								L	T	P	
						26ECP4001L	Major Project	0	0	24	12
						OR					
						26ECP4002L	Major Project	0	0	16	8
						26ECP4003L	Professional Internship	0	0	8	4
						26ECP3001L	Summer Internship	0	0	8	4
						Total Learning Credits 16					

Non-Graded Courses (N)						
Code	Course Title	Hours / Week			C	
		L	T	P		
(Not to be Counted for Total Credits)						
26CEN1001T	Disaster Mitigation and Management	2	0	0	2	
26CSN1001J	Cyber Hygiene	1	0	2	2	
26CYN1001J	Environmental Science with AI	1	0	2	2	
26GNN1001T	Universal Human Values – Understanding Harmony and Ethical Human Conduct	2	1	0	3	
26GNN1002L	Community Connect	0	0	4	2	
26GNN1003J	Behavioural Psychology	1	0	2	2	
26GNN1004L	National Service Scheme	0	0	4	2	
26GNN1005L	National Cadet Corps	0	0	4		
26GNN1006L	National Sports Organization	0	0	4		
26GNN1007J	Physical and Mental Health using Yoga	1	0	2		
26LCN1001T	Indian Art, Culture and Constitution	2	0	0	2	
26LCN1002T	Indian Traditional Knowledge	2	0	0	2	
26LCN1003T	Professional Ethics and Values	2	0	0	2	

1. (f) Implementation Plan : B.Tech. - Electronics and Communication Engineering

Semester 1					
Code	Course Title	Hours / Week			C
		L	T	P	
26PYB1002J	Electromagnetism, Quantum Physics and Optics for Engineers	3	0	2	4
26MAB1001T	Calculus and Linear Algebra	3	1	0	4
26CSE1001T	Data Science and Artificial Intelligence	2	1	0	3
26EEE1001T	Electrical and Electronics Engineering	3	0	0	3
26MEE1002L	Engineering Graphics	0	0	4	2
26LCA1001J	Professional English for Engineers	2	0	2	3
26GNN1001T*	Universal Human Values – Understanding Harmony and Ethical Human Conduct	2	1	0	3
Total Learning Credits					19

Semester 2					
Code	Course Title	Hours / Week			C
		L	T	P	
26CYB1001J	Chemistry	2	1	2	4
26BTB1002T	Biology	2	0	0	2
26MAB1002T	Advanced Calculus and Complex Analysis	3	1	0	4
26CSE1002J	Programming for Problem Solving	2	0	2	3
26MEE1001L	Workshop Practice	0	0	4	2
26ECC1001J	Solid State Devices	3	0	2	4
26LCA1002J	Chinese	2	0	2	3
26LCA1003J	French				
26LCA1004J	German				
26LCA1005J	Japanese				
26LCA1006J	Korean				
26LCA1007J	Spanish				
26LCA1008J	Russian				
26GNN1004L*	National Service Scheme	0	0	4	2
26GNN1005L*	National Cadet Corps	0	0	4	
26GNN1006L*	National Sports Organization	0	0	4	
26GNN1007J*	Physical and Mental Health using Yoga	1	0	2	
Total Learning Credits					22

Semester 3					
Code	Course Title	Hours / Week			C
		L	T	P	
26MAB2001T	Transforms and Boundary Value Problems	3	1	0	4
26DCE1001T	Design Thinking and Methodology	2	0	0	2
26ECC2001J	Engineering Electromagnetics and Its Application	3	0	2	4
26ECC2002J	Digital Logic Design	3	0	2	4
26ECC2003J	Analog Electronic Circuit Design	3	0	2	4
	Skill Enhancement Course 1				2
26LCN1001T*	Indian Art, Culture and Constitution	2	0	0	2
26LCN1002T*	Indian Traditional Knowledge	2	0	0	2
Total Learning Credits					20

Semester 4					
Code	Course Title	Hours / Week			C
		L	T	P	
26MAB2003J	Probability and Statistics	3	0	2	4
26ECC2004J	Signal Processing	3	0	2	4
26ECC2005J	Communication Systems	3	0	2	4
26ECC2006J	Processor Architecture and Interfaces	3	0	2	4
	Skill Enhancement Course 2				2
	Discipline Skill Elective Course 1				4
	Multidisciplinary Skill Course 1				3
26GNN1003J*	Behavioural Psychology	1	0	2	2
26LCN1003T*	Professional Ethics and Values	2	0	0	2
Total Learning Credits					25

Semester 5					
Code	Course Title	Hours / Week			C
		L	T	P	
26MAB1003T	Discrete Mathematics	3	1	0	4
26ECC3001T	Microwave and Wireless Communication	3	0	0	3
26ECC3002J	Optical Communication Systems	3	0	2	4
26ECC3003L	Microwave and Wireless Communication Lab	0	0	4	2
	Skill Enhancement Course 3				2
	Discipline Skill Elective Course 2				4
	Multidisciplinary Skill Course 2				3
26CYN1001J*	Environmental Science with AI	1	0	2	2
26GNN1002L*	Community Connect	0	0	4	2
Total Learning Credits					22

Semester 6					
Code	Course Title	Hours / Week			C
		L	T	P	
26ECC3004J	VLSI Design	3	0	2	4
26ECC3005T	Computer Communication Networks	3	0	0	3
	Skill Enhancement Course 4				2
	Discipline Skill Elective Course 3				4
	Discipline Skill Elective Course 4				4
	Multidisciplinary Skill Course 3				3
26CEN1001T*	Disaster Mitigation and Management	2	0	0	2
26CSN1001J*	Cyber Hygiene	1	0	2	2
Total Learning Credits					20

Semester 7					
Code	Course Title	Hours / Week			C
		L	T	P	
	Discipline Skill Elective Course 5				4
	Discipline Skill Elective Course 6				4
	Discipline Skill Elective Course 7				4
	Discipline Skill Elective Course 8				4
26ECP3001L	Summer Internship	0	0	8	4
Total Learning Credits					20

Semester 8					
Code	Course Title	Hours / Week			C
		L	T	P	
26ECP4001L	Major Project	0	0	24	12
OR					
26ECP4002L	Major Project	0	0	16	8
26ECP4003L	Professional Internship	0	0	8	4
Total Learning Credits					12

(Total Credits - 160)

* The credits for Non-graded courses are not to be counted for total credits for the award of the degree