



Program Structure

Master of Technology

Electronics and Communication Engineering (VLSI Design and Technology)

Duration: 02 years

Batch: 2026-28

School of Engineering and Applied Sciences

Department of Electronics and Communication Engineering

**M.Tech Electronics and Communication Engineering
(VLSI Design & Technology) (2026-28)**

Proposed Outline of Course Curriculum and Credit Framework for UG Programmes in-line with NEP 2020 & NCrF/NHEQF/FYUP etc with Multiple Entry and Multiple Exit (MEME) options: M. Tech Electronics and Communication Engineering (VLSI Design and Technology)

ENTRY-1	Semester-I										Levels as per NCrF
	S.No	Type of Course	Subject	Course Code	L	T	P	E	Credits	Course Offered By	
	1	DSC	Device Physics and Microfabrication Technology	2026MECE600	3	0	2	0	4	ECE	6.5
	2	DSC	CMOS VLSI Design	2026MECE601	3	0	2	0	4	ECE	
	3	DSC	VLSI Signal Processing	2026MECE602	3	0	2	0	4	ECE	
	4	DSE	Elective 1	2026MECEXXX	3	0	2	0	4	ECE	
	5	AEC	NPTEL Broad Categories	2026MECEXXX	2	0	0	0	2	Asynchronous	
	6	VAC	NPTEL Broad Categories	2026MECEXXX	2	0	0	0	2	Asynchronous	
	Total				16	0	8	0	20		

Semester-II										Levels as per NCrF
S.No	Type of Course	Subject	Course Code	L	T	P	E	Credits	Course Offered By	
1	DSC	Advanced Analog Integrated Circuits	2026MECE651	2	0	2	0	3	ECE	6.5
2	DSC	VLSI Design Verification and Testing	2026MECE652	2	0	2	0	3	ECE	
3	DSC	Embedded SoC Design	2026MECE653	2	0	2	0	3	ECE	
4	DSE	Elective 2	2026MECEXXX	3	0	2	0	4	ECE	
5	GE	Operations Research	2026MECE655	3	0	0	0	3	ECE	
	MDC	Composite Materials	2026MECE656							
	Project	Design Project	2026MECE699							
6	VAC	Machine Learning for VLSI	2026MECE654	1	0	2	0	2	ECE	
7	SEC	NPTEL Broad Categories	2026MECEXXX	2	0	0	0	2	Asynchronous	
Total				15	0	16	0	20	40	

ENTRY-2	Semester-III										Levels as per NCrF
	S.No	Type of Course	Subject	Course Code	L	T	P	E	Credits	Course Offered By	
	1	DSC	Hardware Acceleration and Optimization for Machine Learning	2026MECE700	2	0	2	0	3	ECE	7
	2	SEC	CMOS RF IC Design	2026MECE701	3	0	2	0	4	ECE	
	3	PROJECT	Dissertation – I	2026MECE749	0	0	26	0	13	ECE	
	Total				5	0	30	0	20		

Semester-IV										Levels as per NCrF
S.No	Type of Course	Subject	Course Code	L	T	P	E	Credits	Course Offered By	
1	Dissertation	Dissertation - II	2026MECE799	0	0	40	0	20	ECE	7
Total				0	0	40	0	20	80	

*Subject to approval from BoS

List of Electives

S.No.	Subject	Course code	Credit	Semester
1	Low Power System Design	2026MECE621	4	1
2	Memory Design and Testing	2026MECE622	4	
3	High Speed VLSI Design	2026MECE623	4	
4	VLSI Architectures	2026MECE624	4	
5	Photonic Integrated Circuits	2026MECE671	4	2
6	Algorithm Design and Analysis	2026MECE672	4	
7	Nanotechnology for VLSI	2026MECE673	4	
8	Embedded Systems and IoT	2026MECE674	4	

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