LAMRIN TECH SKILLS UNIVERSITY PUNJAB

University School of Engineering and Technology (USET)

STUDY SCHEME | B.Tech Electronics Engineering (VLSI Design and Technology)

PROGRAMME DETAILS	
Programme Name	B.Tech Electronics Engineering (VLSI Design and Technology)
Industry Partner	Powered by L&T (Larsen & Toubro)
School	University School of Engineering and Technology (USET)
Batch	2025-2028 (Lateral Entry)
Duration	3 Years (6 Semesters)
Admission Year	2025

Semester III — Second Year

S.No.	Course Name
1	Microprocessor and Cyber Physical Systems for Industrial Applications
2	Microprocessor and Cyber Physical Systems for Industrial Applications Lab
3	Digital System Design using Verilog
4	Digital System Design using Verilog Lab
5	Electronic Circuit Designs
6	Electronic Circuit Designs Lab (Spice)
7	Network Analysis & Synthesis
8	Professional Ethics & Civic Morals
9	Computer Networks
10	Open Elective-I (Online Certification Course through MOOC, SWAYAM etc.)

Semester IV — Second Year

S.No.	Course Name
1	Electromagnetic Waves
2	Analog and Digital Communication Engineering
3	Analog and Digital Communication Engineering Lab
4	Wireless and Mobile Communication
5	Applied Industrial IoT
6	Applied Industrial IoT Lab
7	Cloud Fundamentals: Unlocking Microsoft Azure
8	Cloud Fundamentals: Unlocking Microsoft Azure Lab
9	Personality Development Workshop-I

Note: *Training will be imparted in the Institution/Industry at the end of 4th Semester for Four (04) weeks duration (Minimum 30 hours per week). Industrial tour will also form part of this training.*

After Completion of 2nd Year — Diploma in Electronics Engineering

Semester V — Third Year

S.No.	Course Name
1	Integrated Signal Processing for VLSI Design
2	Integrated Signal Processing for VLSI Design Lab (Matlab/Python)
3	VLSI Chip Design for Industrial Applications
4	VLSI Chip Design for Industrial Applications Lab
5	SoC Design Fundamentals
6	SoC Design Fundamentals Lab
7	Artificial Intelligence and Edge Computing
8	Professional Elective-1
9	Automatic Control System
10	Institutional Training with Project
11	Open Elective-II (Online Certification Course through MOOC, SWAYAM etc.)

Semester VI — Third Year

S.No.	Course Name
1	Drone Technology and its Transformative Applications — A Practitioner's Perspective
2	Drone Technology and its Transformative Applications — A Practitioner's Perspective Lab
3	SoCs for Industrial Automation Practices
4	SoCs for Industrial Automation Practices Lab
5	Design for Testability
6	Analog and Mixed Signal Design for VLSI
7	Analog and Mixed Signal Design for VLSI Lab
8	Optical Fibre Communication
9	Professional Elective-2
10	Personality Development Workshop-II
11	Capstone Works on — Industrial SoC Products

After Completion of 3rd Year — B.Sc. Engineering in Electronics Engineering (VLSI Design and Technology)

Semester VII — Fourth Year

S.No.	Course Name
1	On Job Deployment / On Job Training

Semester VIII — Fourth Year

S.No.	Course Name
1	On Job Deployment / On Job Training

After Completion of 4th Year — B.Tech Degree in Electronics Engineering (VLSI Design and Technology)

PROFESSIONAL ELECTIVES — COURSE OPTIONS

Professional Elective-1 (Semester V)

S.No.	Course Name
1	Fabless IC Design Techniques
2	FPGA Based System Design
3	VLSI Physical Design
4	Semiconductor Memory Design
5	Static Timing Analysis
6	CMOS VLSI Design

Professional Elective-2 (Semester VI)

S.No.	Course Name
1	MEMS
2	VLSI DSP Processor
3	Low Power VLSI Design
4	Mixed Signal IC Design
5	Machine Learning for VLSI

PROGRAMME EXIT MILESTONES

- ✦ After Year 2 (Semesters III & IV) → Diploma in Electronics Engineering
- ✦ After Year 3 (Semesters V & VI) → B.Sc. Engineering in Electronics Engineering (VLSI Design and Technology)
- ✦ After Year 4 (Semesters VII & VIII) → B.Tech Degree in Electronics Engineering (VLSI Design and Technology)