The MTech programme with Microelectronics and VLSI

Semester wise credits distribution

Semester 1	Semester 2	Semester 3	Semester 4
24 core theory credits	30 credits of electives	MTech Project I 32 credits	MTech Project II 32 credits
3 core lab credits			
4 credits seminar			
6 credits electives			
Communications skills course PP/NP			

Semester-I

24 core theory credits (select any four)	EE618T	Linear Algebra and its applications
	EE607T	VLSI Design
	EE603T	Analog IC Design
	EE624T	Physics of Transistors
	EE613T	VLSI Technology
3 Core Lab	EE612L	VLSI Device Simulation Lab
4 Credits	EE601S	Seminar
6 Credit Elective (Select Anyone)	EE305T	Digital Signal Processing
	EE627T	Embedded System Design
	EE614T	Probability Models and Applications
	EE625T	Semiconductor Radiation Detectors
	EE609T	Multivariable Control Systems
PP/NP		Communication Skills Course

Semester-II

	EE617T	Mixed Signal VLSI Design
	EE626T	Power Semiconductor Devices
	EE616T	System Design of Electronic Products
	EE623T	VLSI Testing and Testability
	EE621T	Nanoelectronics
	EE631T	Flexible Electronics
30 Credits Electives	EE637T	Synthesizable RTL Design finite state machines with data path
	EE633T	RF Microelectronics
	EE613L	Advanced Digital System Design Lab
	EE614L	Synthesizable RTL Design Using Finite State Machines with data path lab

The core theory courses are (6 credits each)
1. Linear Algebra and its applications
2. VLSI design
3. Analog IC design
4. Physics of transistors
5. VLSI Technology

The core lab course is (3 credits)
1. VLSI Device Simulation Lab (new course)
2. All the core theory and lab courses will be offered in the Autumn semester

List of Electives

Autumn (Odd) Semester

Basket: VLSI and Microelectronics	● Digital Signal Processing ● Embedded System Design ● Probability models and applications ● Semiconductor Radiation Detectors ● Multivariable Control Systems ● Institute electives

Spring (Even) Semester

Basket: VLSI and Microelectronics	● Mixed signal VLSI Design ● Nanoelectronics ● Power semiconductor devices ● System Design of Electronic Products ● VLSI Testing and testability ● Flexible electronics ● Synthesizable RTL design using finite state machines with datapath ● RF Microelectronics ● Synthesizable RTL design using finite state machines with datapath Lab ● VLSI Circuit Simulation Lab