SEMESTER 1
Communication and Technical Writing
Programming Lab
Specialization Core 1 : Advanced
Algorithms/Foundation of Machine
Learning/ VLSI System Design
General Elective (Mathematics)
General Elective (Technical)

SEMESTER 2
Specialization Core 2 : Advanced
Software Engineering/Advanced
Machine Learning/ Embedded
Hardware Design
Minor Project
Specialization Elective 1
Specialization Elective 2

Summer
Major Project 1

SEMESTER 3
Major Project 1
Specialization Elective 3
Specialization Elective 4

SEMESTER 4
Major Project 2 / Industrial Project

**Representative List of General
Elective (Mathematics)**
Probability & Random Variables
Linear Algebra
Optimization
Graph Theory
Any other relevant course

**Representative List of General
Elective (Technical)**
Advanced Algorithm
Operating Systems
Machine Learning
Natural Language Processing
Cloud computing
Artificial Intelligence
Human Computer Interaction
Digital Programming
Internet of ThingsMachine Learning
Robotics
Edge Computing
Any other relevant course

**Representative List of
Specialization Electives I and II
(Software Systems)**
Distributed Systems
Distributed Databases
Approximation Algorithms
Information Security
Multimedia Security & Forensic
Any other relevant course

**Representative List of
Specialization Elective III and IV
(Software Systems)**
Big Data Processing
Blockchains and Cryptocurrency
Advanced Computer Networks
Software Specification
and Verification
Any other relevant course

**Representative List of
Specialization Electives I and II
(Machine Learning)**
Digital Image Processing
Information Retrieval
Recommendation System
Adversarial Machine Learning
Deep Learning
Multimedia Security & Forensic
Speech Technology
Any other relevant course

**Representative List of
Specialization Elective III and IV
(Machine Learning)**
Computer Vision
Natural Language Processing
Reinforcement Learning
Computational Shape Modeling
Wavelet Image Processing
Time Series Forecasting
Any other relevant course

**Representative List of
Specialization Electives I and II
(VLSI & Embedded Systems)**
ASIC Design
Analog VLSI Design
Digital System Architecture
Cyber Physical Systems and IoT
Any other relevant course

**Representative List of
Specialization Elective III and IV
(VLSI & Embedded Systems)**
VLSI Testing and Verification
Low Power VLSI Design
VLSI for Digital Signal processing
Device Modeling and Simulation
Nanoelectronics
Any other relevant course