# ECE Structure (Applicable from 2024 and onwards)

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| **1st Sem**<br>1. Engg Foundation-I (Computer Programming) (3-0-2)<br>2. Engg Mathematics-I (Calculus and Transform) (3-1-0)<br>3. Environmental Studies (3-0-0)<br>4. Engg Drawing & Visualization (2-0-2)<br>5. Physics (3-0-2)<br>6. English in Practice (3-0-0)<br>**Total Credit: 21** | **2nd Sem**<br>1. Engg Foundation-II (Data Structure) (3-0-2)<br>2. Engg Mathematics-II (Probability and Statistics) (3-1-0)<br>3. Principles of Economics (2-0-0)<br>4. Product Realization (1-0-2)<br>5. Intro to Data Science using Python (3-1-0)<br>6. Introduction to Electrical and Electronics Engg (3-0-2)<br>**Total credit: 20** |
| **3rd Sem**<br>1. Digital Logic and Systems Design (3-0-2)<br>2. Engg Foundation-III (Introduction to AI) (3-1-0)<br>3. Linear Algebra (3-1-0)<br>4. Object Oriented Programming with JAVA (3-0-2)<br>5. Network Analysis and Synthesis (3-1-0)<br>6. DBMS (3-0-2)<br>**Total Credits: 24** | **4th Sem**<br>1. Computer Architecture (3-0-2)<br>2. IPR and IT Law (2-0-0)<br>3. Semiconductor Devices & Circuits (3-0-2)<br>4. Digital Signal Processing (3-0-2)<br>5. Mobile App Development (3-0-2)<br>6. Elective 1 (CG/Num-Ana/Cloud-Computing/Mini Project) (3-0-2)<br>**Total Credits: 22** |
| **5th Sem**<br>1. Machine Learning (3-0-2)<br>2. Professional Ethics and Technical Writing (3-0-0)<br>3. Analog Electronics (3-0-2)<br>4. Control Systems (3-1-0)<br>5. EMFT (3-1-0)<br>6. Microprocessors (3-0-2)<br>**Total credits: 23** | **6th Sem**<br>1. Analog and Digital Communication (3-0-2)<br>2. Elective 2 (Introduction to VLSI design/OT) (3-0-0)<br>3. Elective 2 Antenna & Wave Propagation/Digital Image Processing/Computer Vision (3-1-0)<br>4. Elective 3 Mobile Computing/Mobile and Wireless communication. (3-0-0)<br>5. Elective 4 (Quantum Computing/Bioinformatics) (3-0-0)<br>6. Elective 5 (Intro to Nonlinear dynamics/OR/Web Technology/OT/Mini Project) (3-0-0)<br>**Total Credits: 20** |
| **7th Sem**<br>1. Project (Engineering Specific) (Credits: 6)<br>2. Elective 5 (NLP/RF Microwave circuits) (3-0-2)<br>3. Elective 6 (SWARM/Nature Inspired/Soft Computing/Wavelet Transform/Mini Project) (3-0-0)<br>4. Elective 7 (Cryptography/Introduction to Quantum Information Processing/Network Security/Time-series analysis) (3-0-0)<br>**Total credits: 16** | **8th Sem**<br>Dissertation On-campus/ Industry internship*<br>*Student needs to find a qualified Industry option himself/herself for the dissertation at industry. Dean SoE/Internship coordinator needs to approve the internship at Industry based on the Company profile and the work profile given to the student. Only after approval, students are allowed to go for industry.<br>**Total Credits: 20** |