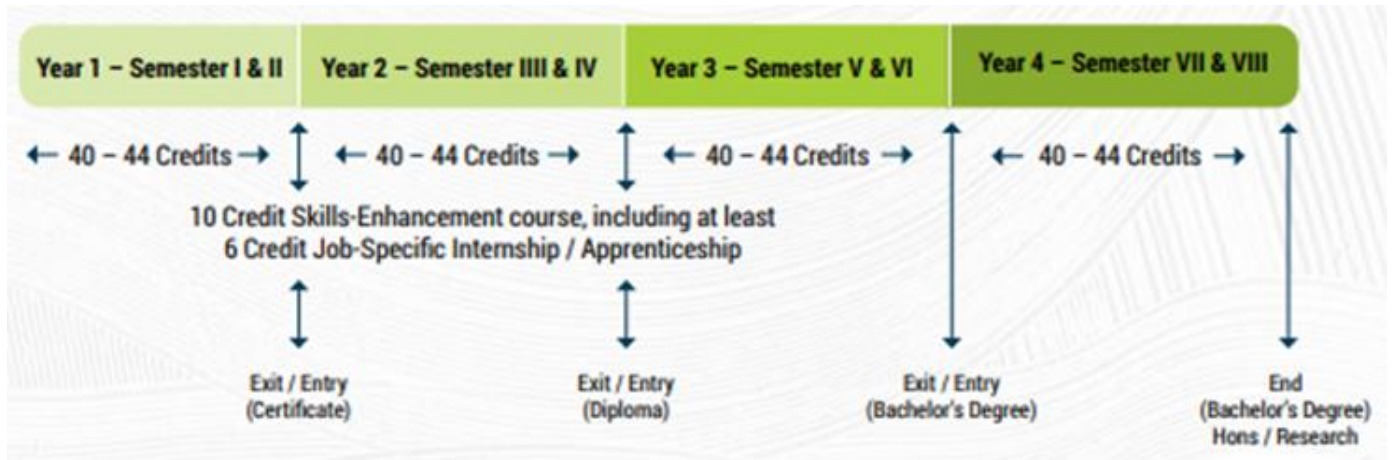


B.Tech Mechanical Engineering

(4 Years Undergraduate Degree Programme as per NEP 2020)

Tentative Semester wise Course List



Year I : Semester I

- Applied Mathematics
- Engineering Graphics and Computer Aided Drawing
- Fundamentals of Robotics
- Geometric Dimensioning & Tolerancing
- Mechanical Engineering Workshop Practice Lab
- Introduction to Computer Programming
- Communication skills
- Capstone Project
- Induction training

Year I : Semester II

- Linear Algebra & Statistics
- Thermo Fluids
- Electronics for Robotics
- Kinematics & Dynamics
- Technical Skill Development Lab 1 (COO using C++)
- Environmental Studies
- Capstone Project

Year II : Semester III

- Fluid Machineries & Fluid Powers
- Strength of Machine Elements
- Application of Hydraulics & Pneumatics in Robotics
- Material Science + Metallurgy
- Ability Enhancement- I
- Arithmetic and Verbal Aptitude Development – I
- Constitutional Values
- Mini Project on CAD

Year II : Semester IV

- Theory of Machines
- RAC & Heat Transfer
- Robot Kinematics
- Computer Integrated Manufacturing
- Ability Enhancement- II
- Constitution of India
- Arithmetic and Verbal Aptitude Development – II
- Mini Project on CAD

Year III – Semester V

- Machine Design
- PLC & SCADA / Additive Manufacturing
- Research Methodology
- Robotics & Control
- Ethics & Values
- Robot Dynamics and Manipulator design

Year III – Semester VI

- Advanced Vibration Engineering
- Autonomous Vehicle/Sustainable Manufacturing
- Minor Track Project (Project Stage I)
- Robot drive systems and programming
- Soft Skills
- Microcontroller and applications

Year IV – Semester VII (Honors Degree)

- Automobile engineering + I. C. Engine
- Industrial Robotics / Data science for robotics & automation
- Sensor technology
- Minor Track Project (Project Stage II)

Year IV – Semester VIII (Honors Degree)

- Field Project/Internship

Year IV – Semester VII (Research Degree)

- Research Seminar
- Research Project

Year IV – Semester VIII (Research Degree)

- Research Internship

Note : Research components include Symposium, Research Project / Dissertation and Research Internship.