

Indian Institute of Technology Patna
Mechanical Engineering Department, IIT Patna

Course structure

Programme : M.Tech.

Specialization: Mechanical Design

Department: Mechanical Engineering

	Courses
Semester I	Core Theory courses (3-1-0-4) : 2 Elective Theory courses (3-0-0-3): 3 ME Lab : I (0-0-3-1.5) HSS Elective (2-0-0-2)
Semester II	Core Theory courses (3-1-0-4) & 1-0-4-3:2 Elective Theory courses (3-0-0-3): 3 ME Lab : II (0-0-3-1.5) Seminar (0-0-4-2)
Summer	Comprehensive Viva (0-0-6-3)
Semester III	Dissertation phase I (24)
Semester IV	Dissertation phase II (24)

Name of courses

• **Core Courses**

1. MH503: Advanced Engineering Mathematics (3-1-0-4)
2. ME519: Advanced Engineering Software Lab (1-0-4-3)
3. ME523: Advanced Dynamics & Vibration (3-1-0-4)
4. ME524: Theory of Elasticity (3-1-0-4)

• **Lab & Seminar Courses**

- ME538: Solid Mechanics & Design Lab-I (0-0-3-1.5)
ME539: Solid Mechanics & Design Lab-II (0-0-3-1.5)
MH507: Seminar (0-0-4-2)
ME603: Dissertation phase I
ME604: Dissertation phase I

HSS Course

1. HS513: Technical Communication (2-0-0-2)

- **Electives I-III**

A student should select three courses from three different group

ME604: Vehicle Dynamics and Multi-body Systems
ME633: Finite Element Analysis
MA639: Mathematical Modeling
ME635: Acoustics
ME601:Robotics: Advanced Concepts & Analysis
ME681: Bio Mechanics and Bio Mechatronics
ME612: Mobile Robotics

- **Electives IV-VI**

A student should select three courses from three different groups.

ME634: Wear & Lubrication of Machine Components
ME652: Fracture and fatigue
ME636: Non-linear Systems Dynamics
MH602: Sensors and Actuators
ME602: Industrial Automation
ME654: Rotor Dynamics
ME644: Composite Materials: Mechanics, Processing and Testing
ME610: Robot Motion Planning