PLACEMENT BROCHURE

M.Tech
Mechatronics

Indian Institute of Technology Patna

2019-20

Mechatronics at IIT Patna

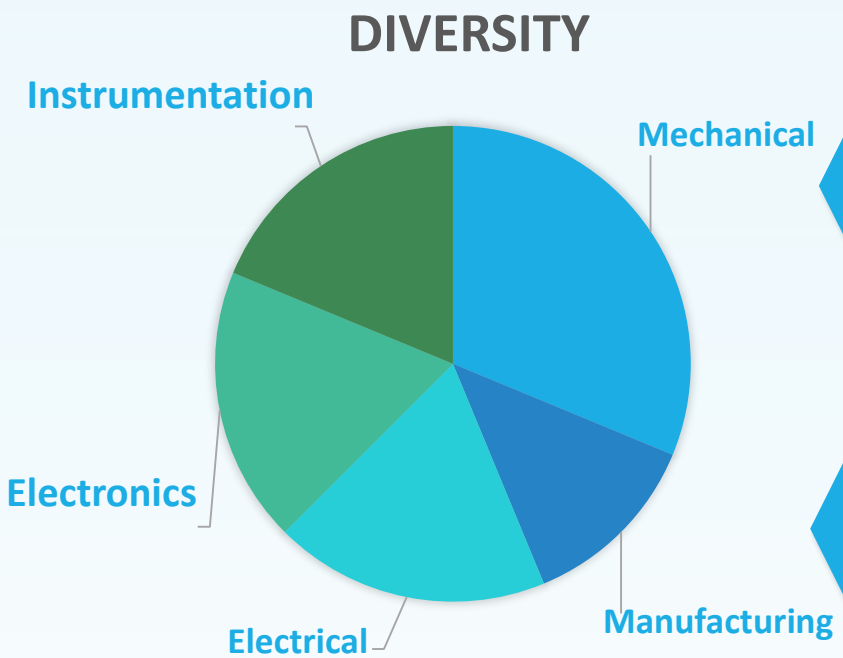
Dear Recruiters,

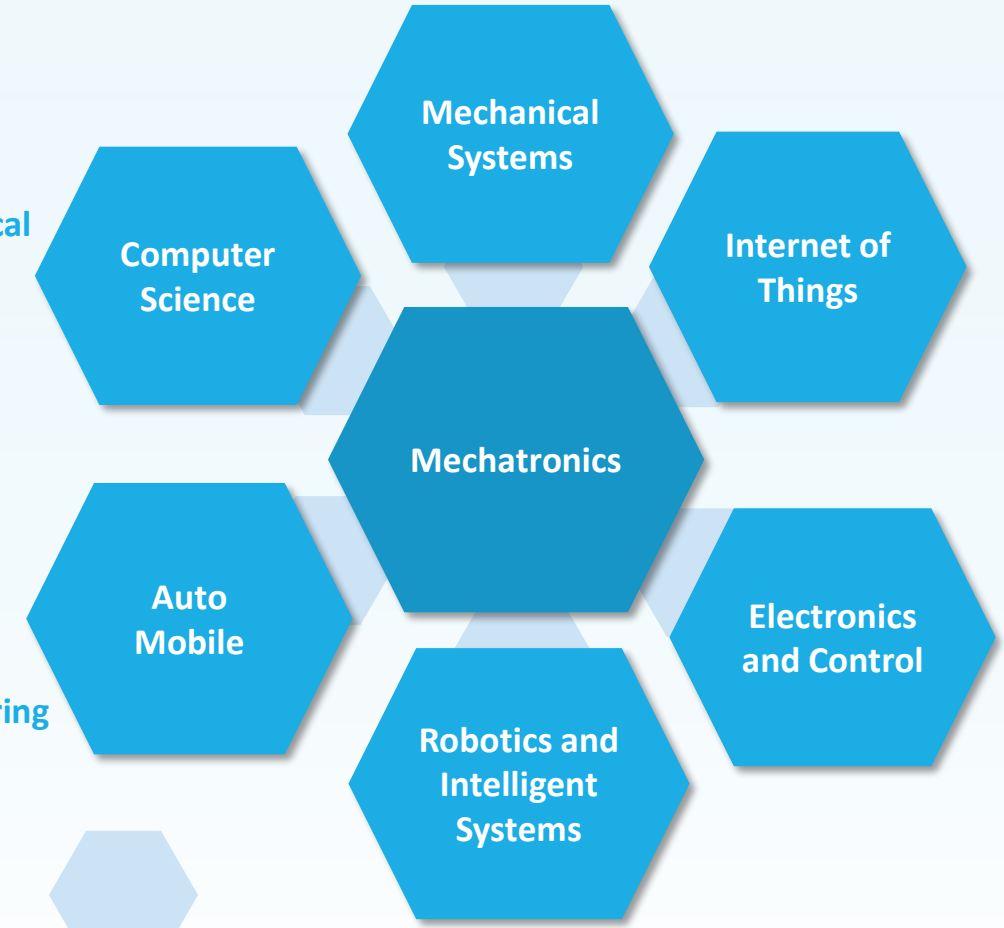
Department of Mechanical engineering in collaboration with Department of Electrical Engineering launched its first masters program M. Tech. in Mechatronics in the year 2012 with an aim to provide a platform for interdisciplinary research. Consequently, the program has gained popularity among mechanical, electrical, electronics and instrumentation engineers and has become one of the most successful masters' degree program at IIT Patna. Indian Railways has signed an MoU with IIT Patna, which allows its employees to register in this program every year. The curriculum is designed to inculcate in-depth knowledge of fundamentals of Mechatronics with 'learning by doing' pedagogical approach. The success of the program can be gauged from the placement offers received by our students from companies such as TVS, TCS, Tata Motors, L&T, Amazon, Google, IBM, Indian Navy, DRDO among others. In addition, our alumni are either pursuing or have completed their higher studies in world-class universities like IITs, NUS, Istituto Italiano di Tecnologia, and Cornell in the areas aligned with mechatronics and robotics.

Looking forward to see you at our campus.

Season's greetings and warm regards,
Dr. Mohd. Kaleem Khan
Head, Department of Mechanical Engineering

Mechatronics at IIT Patna





Students Achievements

- Start-up – Robo Bionics for PROSTHETIC HAND
- Shortlisted in Top 30 out of 640 ideas for Bosch Hackathon for Road Safety at IIT Guwahati.
- Students pursuing PhD at Mcmaster University, Italian Institute of Technology, NUS, and NTU.

COURSE WORK

First year emphasizes on theory and its implementation via various courses and mini projects followed by a full year of research work

KEY COURSES

- Sensors and Actuators
- Embedded Systems
- Vehicle Dynamics
- Introduction to Deep Learning
- Robotics: Advanced Concepts and Analysis
- Mobile Robotics
- Aerodynamics
- Digital Image Processing
- Bio-Medical Signal Processing
- Modelling and Simulation of Mechatronics systems

- Lab courses which provide hands-on experience of working with Sensors, Actuators, PLC, Pneumatics & Hydraulics, Microprocessors, Microcontrollers, Data Acquisition Systems and Computer Vision.
- In-depth training on various software like MATLAB, ANSYS, NX, V-Rep, Python, Octave, 20-Sim, Eagle, and Solidworks is also ensured in coursework

Laboratories

Mechatronics, Instrumentation & Controls Lab

The Lab is equipped with:

- KUKA KR3 R50
- 2 ½ axis CNC machine
- Laser Cutting machine
- PCB Rapid Prototyping.
- Festo Industrial Automation Kit
- Nikon Inverted Microscope
- Data Acquisition Systems by National Instruments

The Research of this Lab is focused on Path-Planning and control of various stationary and mobile robots such as Quadruped, Aquatics, Robotics Arm, Micro-Bots and Haptics

Laboratories

Robotics and Automation Laboratory

The Lab is equipped with:

- 6 Axis Aristo Robot
- 4 Axis SCARA Robot
- 5 Axis SCORBOT Robot
- Fire Bird XI
- Smart Materials Testing Equipment

The Research of this Lab is focused on artificial skin, soft robotics, fish inspired robots, indigenous biaxial testing machine for soft materials and cryogenic setups

Laboratories

Dynamics of Machine Laboratory

The Lab is equipped with

- Motorized Gyroscope
- Centrifugal (Watt) Governor
- Active Mass Suspension system
- Machinery Fault Simulator

Research in this Lab is focused on topics like Fault Simulation in Bearings and Gear Box, Motor, Stator and Rotor, Visco-Elastic Materials and Mathematical modeling of Soft-Bio mechanical tissues.

Current Batch

Projects

- 3D Scanner
- Maze Solver
- Self Driving Car
- Home Automation
- Inverted Pendulum
- Self Balancing Robot
- Automatic Book Scanner
- RL Based velocity control
- Gesture Control Robotic Arm
- Door Unlocking using Face ID

Current Batch

Research Areas

- Hybrid Vehicle
- Bearing Fault Detection
- Gear Box Fault Detection
- Human Robot Interaction
- VR Based Haptic Feedback
- Fabrication of Pressure Sensor
- Video Based Context Extraction Using DL
- Reinforcement Learning Based Path Planning
- Image Processing Based Gesture Recognition
- RL Based Digital Twin Parameter Optimization for Quadruped Locomotion

Some Past Recruiters

Contact Us

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