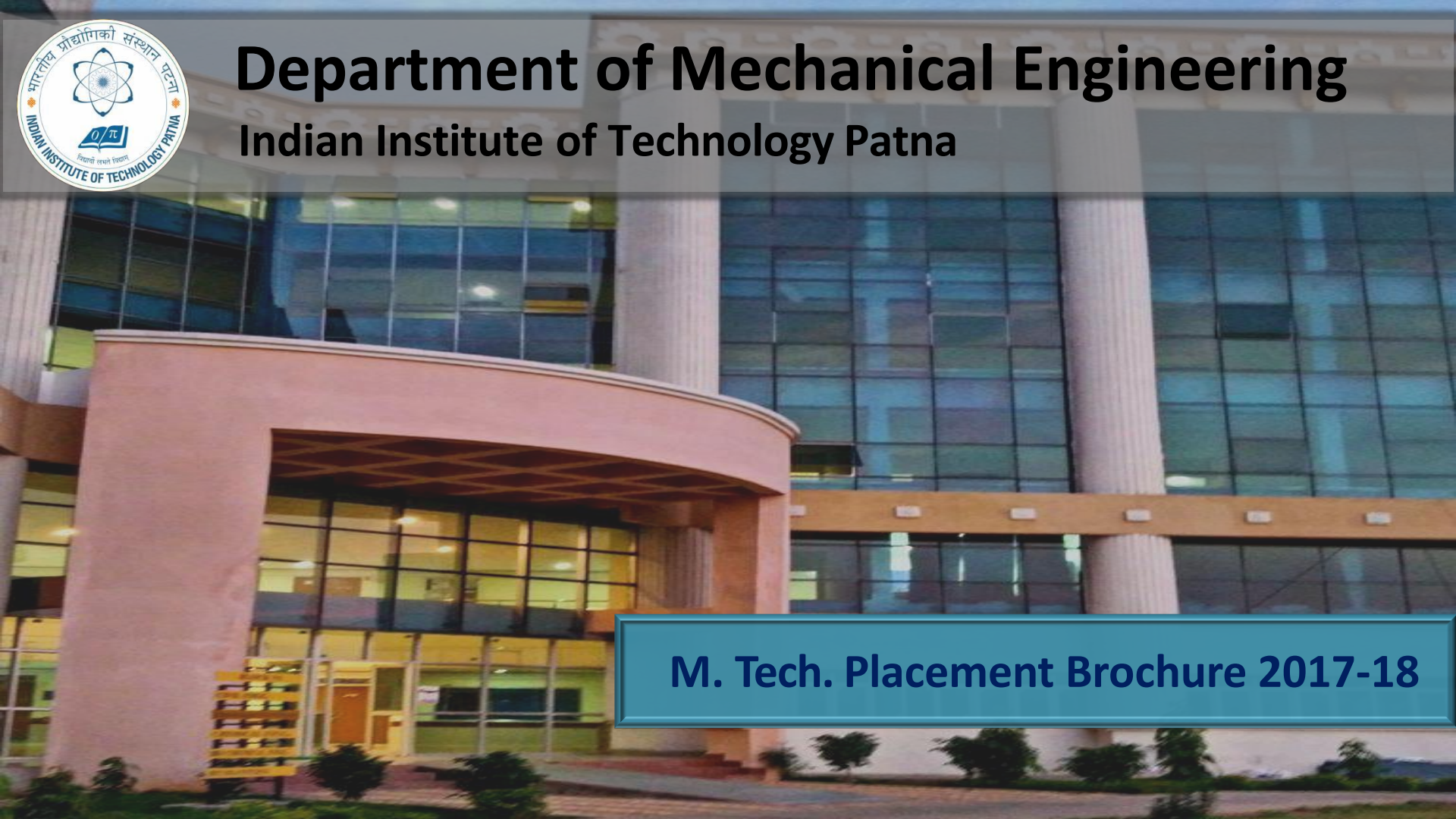
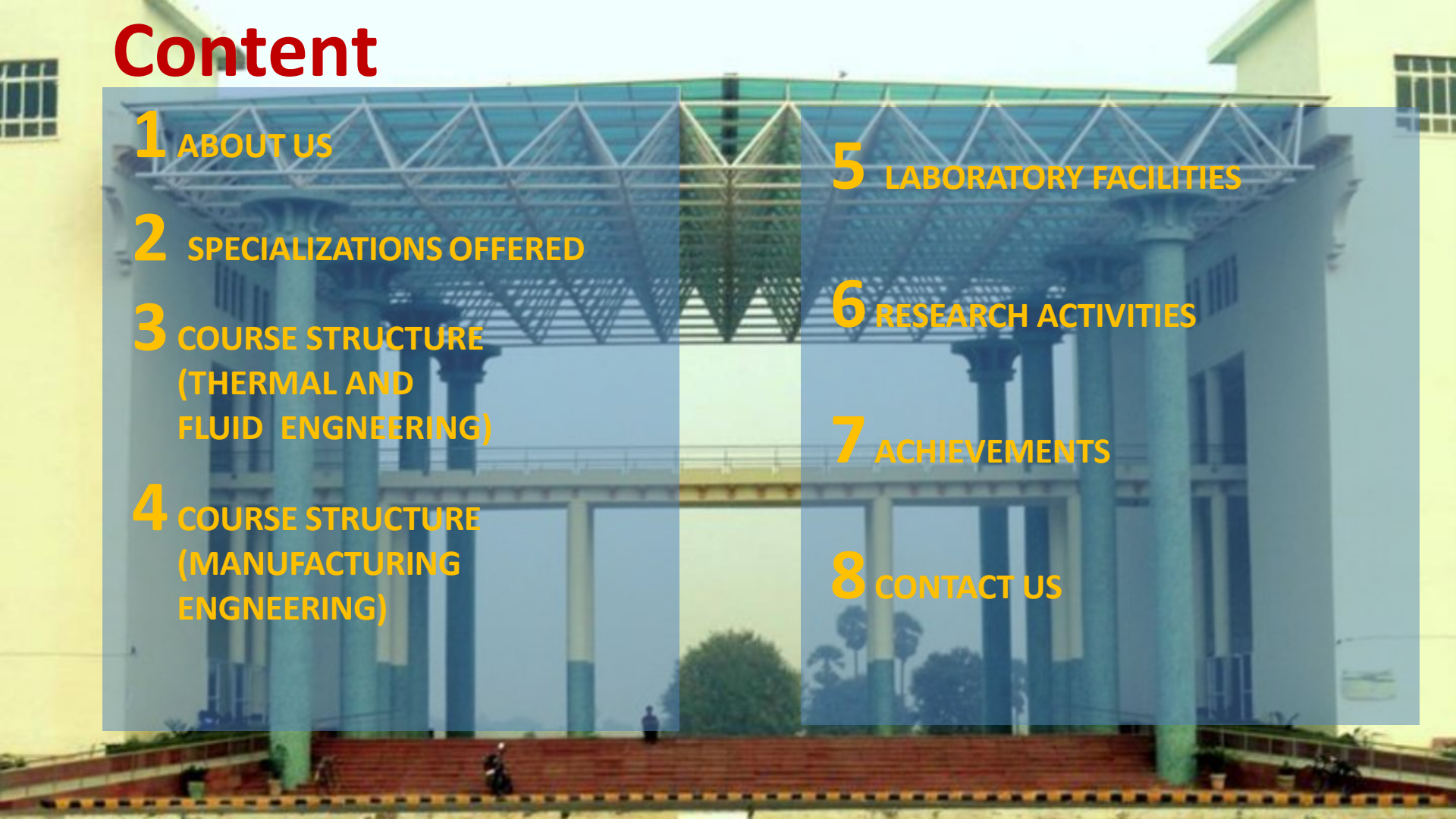
Department of Mechanical Engineering

Indian Institute of Technology Patna



M. Tech. Placement Brochure 2017-18

Content



About us

Established in 2008, the department is advancing towards the frontiers in the field of Mechanical Engineering. Presently, the department is offering B.Tech., M.Tech and PhD degrees. Emphasis is being laid on taking up innovative research and quality education. Department encompasses expertise in Applied Mechanics and Engineering Design, Fluid and Thermal Sciences, and Manufacturing Processes and Systems. The areas of research include Vibration, Soft tissue mechanics, Manufacturing, Condition Monitoring, Biomedical Robotics, Computational Mechanics, Fracture, FEM, Composite, Heat Transfer, Flow Boiling and Pool Boiling, Condensation, Two-phase flows, Refrigeration and Air-conditioning, Computational Dynamics, Turbulent Flows, Interfacial Stress in Yield Stress Fluids, Laser Material Processing, Flow of Granular Materials, Non-traditional Manufacturing, Biomedical Bone Drilling, Soft Computing, Laser Forming etc.

M.Tech Specializations Offered

Fluid and Thermal Engineering

- Specialization started in the year 2014 through GATE
- 2 years Program
- 4 Core Courses + 6 Specialized Electives + Laboratory & Research Work

Manufacturing Science

- Specialization started in the year 2016 through GATE
- 2 years Program
- 4 Core Courses + 6 Specialized Electives + Laboratory & Research Work

Course Structure

M.TECH – Thermal & Fluid Engineering

FIRST SEMESTER

CORE COURSES

- ADVANCED FLUID DYNAMICS
- ADVANCED ENGINEERING MATHEMATICS
- TECHNICAL COMMUNICATION
- THERMO FLUID LAB I

ELECTIVES

- FINITE ELEMENT ANALYSIS
- COMPUTATIONAL FLUID DYNAMICS
- PROCESS INTEGRATION

SECOND SEMESTER

CORE COURSES

- ADVANCED HEAT TRANSFER
- ENGINEERING SOFTWARE LAB
- THERMOFLUID LAB II
- ELECTIVES
- LASER MATERIAL PROCESSING
- MULTIPHASE FLOW AND HEAT TRANSFER
- REFRIGERATION AND AIR CONDITIONING

THE REMAINING TWO SEMESTERS INCORPORATE THESIS WORK

Course Structure

M.TECH – Manufacturing Engineering

FIRST SEMESTER

CORE COURSES

- METAL CUTTING AND ANALYSIS
- ADVANCED ENGINEERING MATHEMATICS
- TECHNICAL COMMUNICATION
- MANUFACTURING LAB I

ELECTIVES

- FINITE ELEMENT ANALYSIS
- ADVANCED MANUFACTURING PROCESSES
- SURFACE ENGINEERING

SECOND SEMESTER

CORE COURSES

- METAL FORMING AND ANALYSIS
- ENGINEERING SOFTWARE LAB
- MANUFACTURING LAB II

ELECTIVES

- WEAR AND LUBRICATION OF MACHINE COMPONENTS
- LASER MATERIAL PROCESSING
- COMPOSITES

THE REMAINING TWO SEMESTERS INCORPORATE THESIS WORK

Laboratory Facilities









- Thermal and Fluid Transport Laboratory
- Fluid Mechanics and Machinery Laboratory
- Computational Fluid Dynamics Laboratory
- Heat and Mass Transfer Laboratory
- Advanced Manufacturing Laboratory
- CAD/CAM Laboratory
- Material Testing Laboratory
- Tribology Laboratory
- Micro-fabrication Laboratory
- Dynamics and Vibrations Laboratory
- Fire Research Laboratory
- Measurement and Process Analysis Laboratory
- Mechanical Workshop
- Metrology Laboratory
- Robotics and Automation Laboratory
- Instrumentation and Control Laboratory
- I. C. Engine Laboratory

Research Activities

- Flow Boiling in Nanostrctured Microchannels
- Flow characteristics of ecofriendly refrigerants in adiabatic and diabatic capillary tubes
- Experimental and numerical evaluation of friction stir welding
- Laser material processing
- Acoustics in boiling
- Manufacturing of micro wires

Achievements

- IIT Patna has been ranked as the 19th Best Engineering College in India by MHRD
- IIT Patna hosted India's first ever IEEE 5G Symposium Institutional Ranking Framework (NIRF) accepted by MHRD for the year 2016
- Team ALACRITY represented IIT Patna in HPVC Event 2016 Organized by American Society of Mechanical Engineers (ASME) and won laurels with 4th rank in designing
- It was among the only institute from Bihar and one among the two IITs that qualified for the SAE BAJA MAIN EVENT 2015 held at NATRAX facility, Pithampur, M.P.
- Ranked 12th in Baja Student Idea (BSI) 2017 rule quiz
- IIT Patna cleared the SAE India BAJA Virtual Round in 2014 and 2015

Contact us

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Designed by: M. Tech Mechanical Batch 2016-18