



Placement Brochure 2016-2017

CHEMICAL SCIENCE & TECHNOLOGY IIT PATNA

ABOUT THE BRANCH -

The sustenance and growth of the industry depends on the regular supply of quality human resources. The Chemical Science and Technology branch was opened in 2013 with a view to prepare human resources to be competent in both Industry and Academia.

The four year B.Tech. course in Chemical Science and Technology at IIT Patna provides a rigorous academic curriculum and a vibrant learning environment to prepare quality students at the Bachelors level for the challenges of the industry and academia. With the cutting edge research undertaken by the faculty in areas of core Chemical Engineering and various inter-disciplinary areas, in tandem with R&D processing industries in India and abroad, the Department continues its legacy as a premier seat of professional education.



COURSES OFFERED

Chemical Engineering

- CHEMICAL PROCESS CALCULATIONS
- FLUID MECHANICS
- THERMODYNAMICS
- HEAT AND MASS TRANSFER
- PROCESS CONTROL AND INSTRUMENTATION
- CHEMICAL REACTION ENGINEERING
- PLANT DESIGN AND ECONOMICS

Chemical Science

- **PETROLEUM AND PETROCHEMICALS**
- CHEMICAL KINETICS AND ELECTROCHEMISTRY
- POLYMER CHEMISTRY
- BIOCHEMISTRY AND BIO-TECHNOLOGY
- INDUSTRIAL CHEMISTRY
- CATALYSIS
- ORGANIC AND INORGANIC CHEMISTRY
- DYES, PAINTS AND **PIGMENTS**

Offered Elective Courses

- **ENTREPRENEURSHIP**
- **PROCESS INTEGRATION**
- **NUMERICAL METHODS**
- **MOLECULAR MODELLING AND SIMULATION**
- **OPTICS AND LASERS**
- **ECONOMICS**
- **NANO-MATERIALS**

Laboratory Courses

- UNIT OPERATIONS AND HEAT TRANSFER LAB
- CHEMICAL REACTION ENGINEERING AND FLUID FLOW LAB
- CHEMICAL TECHNOLOGY LABORATORY I , II & III



Laboratory Facilities

- Batch Reactor
- Continuous Stirred Tank Reactor
- Plug Flow Reactor
- Cyclone Separator
- Plate and Frame filter press
- Vapour-Air Diffusion
- Venturi- and Orifice Meters
- Drop-Wise and Film-Wise Condensation
- Microwave Reactor
- X-ray Diffraction

- Fluorescence Spectrophotometer
- Atomic Force Microscopy
- UV-Vis Spectrophotometer
- Particle size and zeta potential analyser
- Gas Chromatography-Mass Spectrometer
- FTIR
- Digital Polarimeter
- HPLC
- PCR Thermalcycler
- Gel Permeation Chromatography



RESEARCH INTERNSHIPS

INDUSTRIAL INTERNSHIPS

- “Synthesis and catalytic activity of Pt:PVP nanoclusters”
- **University of Tokyo**
- “A Study on the high temperature metal composites of Iron and Aluminium using Graphene oxide”
- **Tata Steel(TISCO)**
- “Scale-up, reproducibility study and establishment of mass balance calculation for ZSM-5 zeolite production” -**IOCL(Indian Oil Research and Development)**
- “Efficient utilization of mother liquor from Refined Bicarbonate (RBC)”
- **Gujarat Heavy Chemical Limited (GHCL)**
- “Biochemical Characterization of Hp1370 – A Type-III N⁶ Adenine Methyltransferase from Helicobacter Pylori”- **Indian Institute of Science, Bangalore**
- “Enrichment of hazardous hydrazine hydrate by membrane distillation”- **Indian Institute of Technology Kanpur**

- **IOCL**
- **Reliance Industries Ltd.**
- **Tata Steel**
- **Marico**
- **Gujarat Heavy Chemicals Ltd.**
- **National Fertilizers Ltd.**
- **Aditya Birla Nuvo**
- **Chembiotech**
- **Aurobindo Pharma Ltd.**
- **TSGENCO**

STUDENT ACTIVITIES AND INDUSTRIAL VISITS

EVENTS:

IIT Patna each year celebrates its technical fest, christened as “CELESTA”. The department club organizes various events such as Rocket Propulsion, Chem Charade, Chemo Switch, Are You Updated etc. to inculcate interest in young minds to pursue technology and make it their passion.

INDUSTRIAL VISITS:

Students actively participate in industrial visits to supplement and enhance theoretical knowledge and to get first hand experience on industrial challenges and latest technology coming up in the industries. Past industrial visits include United Breweries Ltd, And visit to Concrete Batching Plant.



GUEST LECTURES



- Prof. M. M. Sharma, Institute of Chemical Technology (Deemed University)
- Dr. Ranjeet Sinha from The Scripps Research Institute, La Jolla, CA, USA
- Dr. Dhruv Kumar , Department of Otolaryngology, The University of Kansas, USA
- Dr. Amit Shyam, Oak Ridge National Laboratory (ORNL), Oak Ridge, USA
- Prof. Dibyendu Mukherjee, Former Professor of the Department of Chemical Engineering, IIT KGP
- Prof. Amit Agrawal, IIT Bombay Dr. Krishna Etika , IIT Madras

• **And many more!!!**



JOB PROFILE

Contrary to the contemporary engineering disciplines, CST takes a step ahead with emphasis being laid industry. The curriculum is designed keeping in mind the latest technological developments and the requirements of modern chemical industries. The graduates are well equipped to foray into various challenging opportunities and perform divergent roles in various sectors such as:

- Quality Control and Production Units
- Process Control
- Industrial Consultancy
- Research and Development
- Supply Chain Management

- Oil and Petrochemicals
- Pharmaceuticals
- Instrumentation Industry
- FMCG's
- Agro and Food Processing
- 3rd Party R&D
- Chemical Consultancies

Where we fit:

- Pesticides and Agricultural Chemicals Industry
- Life Sciences
- Paint and Polymers
- Paper, Pulp and Textile
- Fine Chemicals

Contacts

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STUDENT REPRESENTATIVES

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