PLASTINDIA INTERNATIONAL UNIVERSITY
Building Our Future Together
SPONSORED BY PLASTINDIA FOUNDATION

In Technical Partnership with
UMASS University of Massachusetts Lowell
Learning with Purpose

SCHOOL OF ENGINEERING

The School of Engineering (SoE) is dedicated to offering education and research in cutting-edge technologies and imaginative solutions that has the power to transform the global Plastics/Polymer, Chemical, and Mechanical Engineering oriented Industries.

B. Tech.
in Plastics and Polymer Engineering

AN INTERNATIONALLY ACCLAIMED CURRICULUM WAITING FOR YOU

Choosing **B. Tech. in Plastics and Polymer Engineering** at PIU offers you to become a future leader in the domain of plastics and sustainability! The four-year program, partnered with University of Massachusetts Lowell, USA, a world leader in Plastics Engineering Education, offers in-depth knowledge of Polymer Science and hands-on labs in areas like Manufacturing and Product Design.

The curriculum includes core courses, specialized electives for your career goals (employment, research, etc.), open electives for broader interests and Honor/Minor for increasing scope of employment.

Through industry collaborations and internships, you'll be able to bridge the gap between theory and real-world challenges, preparing you for a successful career in the plastics industry.

CAREER AVENUES FOR B.TECH. IN PLASTICS AND POLYMER ENGINEERING

Manufacturing Engineer	**Research and Development Scientist**	**Application Development Professional**	**Business Development Professional**
Technical Services Professional	**Technical Sales and Marketing Professional**	**Quality Assurance/ Control Professional**	**Sustainability Professional**
Product Design Professional	**Process Engineer**	**Material Engineer**	**Recycling Engineer**

INDUSTRY AVENUES FOR B.TECH. IN PLASTICS AND POLYMER ENGINEERING

- Petrochemicals
- Automotive
- Packaging
- Electrical and Electronics
- Biomedical
- Pharmaceutical
- FMCG
- Paints and Coatings
- Adhesive and Sealants
- Rubber
- Textile
- Energy Generation
- Construction
- Furniture
- Agriculture
- Aerospace
- Marine
- Defense

ELIGIBILITY AND SELECTION CRITERIA

Engineering programmes at PIU cover B. Tech. in Plastics and Polymer Engineering with an Honor/Minor degree. Admissions into the undergraduate course is given if the students meet the below eligibility criteria:

The student should have cleared 10+2 with Science stream with a minimum 45% (40% for SC/ST/SEBC/EWS) of theory (or Th. & Pr.) marks in Physics and Mathematics as compulsory subjects with Chemistry / Biology / any other technical vocational subject.

Students should have appeared in the JEE (Main) examination and/or State level examination GUJCET

For ACPC Seats, please refer to: https://acpc.gujarat.gov.in/be-b-tech
For All India (AI) Seats, please refer to: https://plastindia.edu.in/apply/

TENTATIVE CURRICULUM STRUCTURE

Semester I

- **Engineering Mathematics-I**
- **Engineering Chemistry**
- Materials Science and Engineering
- Engineering Graphics and Design
- Engineering Workshop Practices-I
- Professional Communication (English-I)
- Design Thinking and Innovation-I
- Lab: Engineering Chemistry
- **Lab: Engineering Graphics and Design**
- Yoga and Meditation

Semester II

- **Engineering Mathematics-II**
- **Engineering Physics**
- **Introduction to Plastics Engineering**
- Introduction to Polymer Science and Technology
- Engineering Workshop Practices-I
- Professional Communication
- Design Thinking and Innovation-II
- Lab: Engineering Physics
- Lab III: Engineering Workshop Practices-I
- **Lab: Computer Programming**

Semester III

- **Engineering Mathematics III**
- **Polymeric Materials-I**
- **Introduction to Organic and Polymer Chemistry**
- **Principles of Processing Equipment and Automation**
- Polymer Additives and Compounding
- Environmental Studies
- **Lab: Introduction to Organic and Polymer Chemistry**
- **Lab: Plastics Process Engineering-I**
- Soft Skills Development
- Mini Project-I and Industrial Visit

Semester IV

- **Engineering Mathematics-IV**
- **Polymeric Materials-II**
- Polymer Testing and Characterization
- Thermodynamics and Heat Transfer
- **Plastics Recycling and Sustainability**
- Introduction to Economics
- **Lab: Plastics Process Engineering -II**
- Lab: Polymer Testing and Characterization
- Technical and Scientific Writing
- Mini Project-II and Industrial Visit
- In-plant training

Semester V

- **Plastics Process Engineering -I**
- **Polymer Science- I**
- **Fluid Flow**
- **Engineering Ethics**
- **Methods Exp. Analysis**
- **Lab: Plastics Process Engineering- III**
- **Lab: Polymer Science-I**
- **Lab: Design Lab-I**
- Minor Project-I

Semester VI

- **Plastics Process Engineering -II**
- **Polymer Science-II**
- **Plastics Mold & Die Engineering**
- Professional Elective Course-I (Biopolymers & Biocomposites/Packaging Technology/Surface Coating Technology / Plastic Industry 4.0)
- Open Elective-I (Introduction to Nanotechnology)
- **Lab: Plastics Process Engineering-IV**
- **Lab: Polymer Science II**
- Lab: Design Lab-II
- **Major Project-I**
- Environmental Health and Social Responsibility

Semester VII

- **Mechanical Behavior of Polymers**
- **Polymer Structure/Properties**
- **Process Control**
- **Product and Process Design**
- Professional Elective Course-II (Polymer Blends and Composites / Elastomer Technology / Medical Plastics / Energy from Plastics Waste)
- Open Elective-II (Flexible Electronics)
- Lab: CAE for Plastics (Design Lab-III)
- **Lab: 3D Printing Lab**
- **Major Project-II**

Semester VIII

- In-plant Training
  20 week training followed by technical presentation and dissertation regarding projects undertaken in the Industry/Research Laboratory.

Incorporated in our curriculum from the Undergraduate program in Plastics Engineering at UMASS Lowell, USA.

INDUSTRY PARTNERS

Supreme People who know plastics best · Jyoti Plastics and Beyond · Tifco · Intercontinental Polymers · Autotech Sirmax · skyi · Rajoo excellence in extrusion

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