

**Department of Chemical Engineering**

**1. About the Department:**

- The Department of Chemical Engineering, established in 2018, has experienced substantial growth and achieved significant milestones since its inception. The department is accredited by the National Board of Accreditation (NBA, Tier-I), with well-equipped infrastructure and facilities.
- **Industry Collaboration:** The Department of Chemical Engineering has Memorandum of Understandings (MoUs) with leading organizations like South Indian Textile Research Association (SITRA), Praj Industries and Sri Sakthi Sugars Ltd.
- **Thrust Areas:** Process and Equipment Design Engineering, Separation techniques, Renewable Energy, Environmental Engineering, Chemical Reaction and Reactor Engineering, Waste Management, Wastewater Treatment, Process Modeling and Simulation, Waste to energy, New Product Development, Bio-chemical Engineering, Bio-fertilizers, Process Safety.

**2. Facilities Available for Industry Collaboration**

- **Design and Simulation Lab:** Equipped with Aspen Plus & Aspen HYSYS, supporting research and practical projects in Process synthesis and Engineering
- **Heat and Mass Transfer Lab:** Equipped with laboratory-scale heat and mass transfer equipment suitable to conduct batch/continuous experimental studies for new product development
- **Chemical Reaction Engineering Lab:** Equipped with lab-scale batch and continuous reactors to conduct various studies for products & process development in wastewater treatment, bio-fuels and so on.
- **Technical Analysis Lab:** Facilities for testing a variety of samples including, drinking water, wastewater, food products, bio-fuels, etc.

**3. Consultancy Services**

- Areas: Process Design, Process Synthesis for New Product Development, Design of Process Equipment, Modeling and Simulation, Separation studies, Reaction kinetics and Reactor Design, Process Safety Studies – HAZOP, HAZAN, Bowtie Analysis, Post - Accident Analysis – Event Tree, Fault Tree, FEMA, Environmental Impact Assessment, Plant Safety Audit, Environment Audit, Industrial Automation and Process Control, CFD studies, Waste Management Wastewater Treatment.

**4. Testing Services.**

- Testing of water, wastewater, edible oils, fuels, bio-fuels, soap, detergents, food additives, cement, sugar, fertilizers. Bio-fertilizers, Nanomaterials, composite materials, Glass and Ceramics.

## 5. Executive Development Programs

- **New Product Development for start-up & innovators:**  
Duration: One week  
Topics: New Product development from natural and waste materials, testing of new products, regulatory aspects
- **Advanced Process Modeling and Simulation for Industry**  
Duration: One week  
Topics: Foundation concepts of Process Modeling, Steady State and Dynamic Simulation of Process Equipment using Aspen Plus & HYSYS, Exchanger Design and Rating, Shortcut and Rigorous simulation of separators, Energy Integration using Aspen Energy Analyzer.

## 6. Research and Development Collaborations

- **Research Focus Areas:** Separation techniques, Renewable Energy, Environmental Engineering, Chemical Reaction and Reactor Engineering, Waste Management, Wastewater Treatment, Waste to energy, New Product Development, Bio-chemical Engineering, Bio-fertilizers.

## 7. Achievements and Success Stories

- Successfully supported Industry through the preparation of Detailed Project Report for M/s Amirtha Sago Industry, Salem
- Technology Transferred an innovative product “Medicine Vending Machine” to M/s Mahalakshmi Agencies, Coimbatore
- Active technical consultations by faculties for Wafe Auxilliary Chemicals Ltd., MachDatum Technologies, Krish Carbon, Green Era Recyclers, etc.
- Organized Entrepreneurial Development Program for women on “Manufacture of House Hold Chemicals with MSME –Coimbatore” in January 2024
- Received MSME fund of Rs.14,00,000/- for “Building a Mobile App Platform for Home maker Women”
- Running a successful start-up “Mycobloom Mushroomery” for cultivation of Medicinal Mushroom and development of value-added products funded by TANSEED.