

(037-CMC-02-02) CHEMICAL ENGINEERING (INDUSTRY- INTEGRATED)

Significance of the program:

An industry-integrated B.Tech. in Chemical Engineering provides a well-rounded education by combining theoretical knowledge with practical experience. This program not only imparts a solid understanding of core principles such as mass balances and thermodynamics but also immerses students in real-world applications through industry exposure. The hands-on experience enhances problem-solving skills and adaptability, making graduates highly sought after by employers in various sectors, including petrochemicals, pharmaceuticals, and environmental engineering. With a global perspective and a focus on sustainability, this program prepares students to contribute to cutting-edge research and innovation, opening doors to a fulfilling and impactful career with ample opportunities for growth.

Career options:

An industry-integrated B.Tech. in Chemical Engineering opens up a spectrum of compelling career options.

- As a process engineer, they can specialize in designing and optimizing manufacturing processes for efficiency and safety.
- Environmental engineering offers opportunities to develop sustainable solutions and minimize the environmental impact of industrial practices.
- In the pharmaceutical sector can contribute to the production and advancement of innovative pharmaceutical products.
- Quality control engineer roles ensure adherence to industry standards, while project management and consulting positions leverage your expertise in optimizing processes.
- The integration with industry not only enhances adaptability but also positions you for roles in renewable energy, research and development, or even entrepreneurial ventures.

Programme Objectives:

- The B.Tech. program in Chemical Engineering with an industry-integrated approach is designed to bridge academic knowledge with practical expertise, preparing students to excel in the field.

- The objectives encompass providing a comprehensive understanding of core principles
- Fostering critical thinking and problem-solving skills through hands-on experiences in real-world industrial environments.
- The program aims to graduate professionals proficient in both theoretical foundations and practical skills for diverse industries.

Outcomes of the Program:

The B.Tech. program in Chemical Engineering, with a unique integration with industry, strives to produce graduates with a comprehensive skill set and holistic understanding of the field.

- Enables them to attain technical proficiency in applying chemical engineering principles to real-world scenarios, demonstrating a practical application of their knowledge in industrial settings.
- Enables them for a strong emphasis on fostering problem-solving skills and adaptability, ensuring graduates can effectively address complex challenges encountered in the field.
- Focus on industry readiness, students gain insights and skills during their integrated experiences, seamlessly transitioning into professional roles.
- Enables them for effective communication, global perspective, ethical awareness, and an entrepreneurial mindset are additional outcomes, collectively preparing graduates to excel in the dynamic and ever-evolving landscape of chemical engineering.

Major Course Outlines

1. Separation Processes
2. Reaction Engineering
3. Process and quality control
4. Process safety
5. Pharmaceutical Engineering
6. Petroleum Engineering