

CHEMICAL ENGINEERING FOR NON-CHEMICAL ENGINEERS



OUR ACCREDITATION & PARTNERS



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OVERALL DESCRIPTION:

In today's complex industrial landscape, bridging the gap between technical specialties is not just a best practice—it's a critical business imperative. This course is meticulously designed to empower business leaders, project managers, and technical specialists from diverse backgrounds to confidently navigate the world of chemical processes. We move beyond complex theory to provide a practical, humanized understanding of chemical engineering principles, translating jargon into actionable knowledge. You'll learn to interpret essential documents, grasp core concepts, and communicate with your chemical engineering colleagues and partners more effectively. This training will not only enhance your operational efficiency and safety awareness but also accelerate project timelines and drive more informed, strategic decision-making for your organization.

Course Objectives:

- **Communicate** with clarity and confidence using common chemical engineering terminology.
- **Decipher** process flow diagrams (PFDs) and piping & instrumentation diagrams (P&IDs) to understand the logic of a plant.
- **Recognize** the fundamental principles of mass and energy balance and their impact on process design and efficiency.
- **Identify** and differentiate between key unit operations such as reactors, separators, and heat exchangers.
- **Appreciate** the critical role of process safety and environmental compliance in chemical engineering projects.
- **Contribute** more strategically to interdisciplinary projects by understanding the technical constraints and possibilities.



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Course Outline:

- **Chemical Engineering Fundamentals:** Introduction to the core concepts, common units of measurement, and the importance of mass and energy balance.
- **Process Diagrams & Communication:** A hands-on guide to reading and understanding Process Flow Diagrams (PFDs) and Piping & Instrumentation Diagrams (P&IDs).
- **The Building Blocks of a Plant:** An overview of common unit operations, including heat exchangers, distillation columns, pumps, compressors, and reactors. We'll explore their purpose and how they connect.
- **Material and Energy Balance:** A simplified, practical approach to understanding how these principles govern process design, optimization, and troubleshooting.
- **Process Safety & Regulatory Compliance:** Key principles of process safety management, hazard identification, and the importance of environmental and regulatory considerations.
- **Case Study Analysis:** Applying learned concepts to real-world scenarios to solve problems and make decisions in a simulated, team-based environment.

WHO SHOULD ATTEND?

- Project Managers and Project Engineers
- Sales, Marketing, and Business Development Professionals
- Maintenance and Operations Supervisors
- Legal and Finance Staff
- Supply Chain and Procurement Specialists
- EH&S (Environment, Health, and Safety) Professionals

Course Methodology:

We utilize a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. This training course will be conducted as a highly interactive workshop session. A variety of training methodologies will be used Before and during the course whenever applicable. Some of these methods are gamification, online pre-post test, role plays, self-assessment instruments, group exercises & case studies.

