

Module 1: Introduction and Fundamentals

1. Process Intensification Principles
2. Intensified Kinetics: Catalysts
3. Intensified Processes: Continuous Operations

Module 2: Reaction and Heat Transfer Limitations

1. Intensifying Heat Transfer via Maximizing the Heat Transfer Area
2. Making Heat Transfer Volumetric

Module 3: Reaction and Mass Transfer Limitations

1. Intensifying Reactions via Enhanced Reaction Mixing
2. Intensifying Reactions via Coupling of Separation and Reaction

Module 4: Intensification via Novel Forms of Activation

1. The Limits of Thermal Activation
2. Cavitation Reactors
3. Microwave Reactors
4. Photocatalytic Reactors
5. Electrochemical Reactors