



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Catalysis and Catalytic Processes

CBE 5712

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Kinetics of catalytic processes, mass transfer in catalysis, catalyst preparation and characterization, deactivation of catalysts, catalytic reactors, and application of catalytic phenomena in industrial processes.

Prerequisites and Co-requisites:

Prereq: 3521 (522) and 3610 (610), or Grad standing.

Course Goals / Objectives:

- Mastery of basic principles associated with catalysis
 - Familiarity with transport phenomena in catalysis
 - Familiarity with catalytic reactors
 - Exposure to catalyst characterization techniques
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Course Topics:

- Introduction to catalysis and catalytic processes
 - Surfaces
 - Adsorption processes
 - Kinetics of Catalytic Reactions
 - Transport Phenomena in Catalytic Processes
 - Catalyst Preparation
 - Catalyst Supports and Support Effects
 - Catalyst deactivation
 - Catalytic reactors
 - Catalyst characterization techniques
 - Introduction to Industrial catalytic processes
 - Applications related to energy
 - Environmental catalysis
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Designation:

Elective