



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Chemical and Biomolecular Engineering Processes

CBE 5761

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Graduate (5000-8000 level)

Course Components:

Lecture

Field Experience

Course Description:

Integration of fundamentals of chemistry, chemical engineering operations, thermodynamics, reaction kinetics and economics for optimum design and operation of chemical process plants.

Prerequisites and Co-requisites:

Prereq: Sr or Grad standing in CBE or Chem.

Course Goals / Objectives:

- Familiarize students with selected portions of the chemical process industry
 - Familiarize students with current issues, problems and trends in the chemical process industry, including energy supplies and environmental concerns
 - Familiarize students with economics of the chemical process industry
 - Develop technical writing skills
 - Visit several plants to observe processes
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Course Topics:

- Introduction to chemical process industries, sustainability
 - Water treatment, waste water treatment plant trip
 - History of chemical engineering and achievements, world and US energy sources,
 - Pulp and paper manufacture, paper plant trip, production of ammonia and ammonia products and nitric acid
 - Production of sulfuric acid, introduction to petroleum refining
 - Petroleum refining (cont.), petroleum products
 - PPG Plant trip, beer production, safety video
 - Anheuser Busch plant trip, Petrochemicals
 - Consumer products, explosions video
 - Biochemical processes, air pollution, consumer products
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Designation:

Elective