Department of Industrial Chemistry **Faculty of Science**

IC (209)401 **Kinetic Chemistry and Chemical Reactor Design** **3(3/3-0/0)**

Abbreviation KINET CHEM REACTOR DESIGN

Prerequisite **CHEM 321**

This course is opened for MAJOR COMPULSORY COURSE (PLAN I), MAJOR ELECTIVE COURSE (PLAN II)

Course Description

Definitions of rate expression, kinetic chemistry of homogeneous reactions, interpretation of batch reactor data, design for single ideal reactor, design for multiple reactor system, temperature and pressure effects on single and multiple reactions, kinetic chemistry of heterogeneous reaction system, and basic reactor design for heterogeneous reaction system

Objectives

Students will be able to understand chemical kinetics and chemical reactor designs.

Course Content	**Lecture Hours**
1. Introduction	1
2. Definitions of rate expression	2
3. Kinetic chemistry of homogeneous reactions	2
4. Interpretation of batch reactor data	3
5. Design for single ideal reactor	9
6. Design for multiple reactor system	8
7. Temperature and pressure effects on single and multiple reactions	7
8. Kinetic chemistry of heterogeneous reaction system	9
9. Basic reactor design for heterogeneous reaction system	4
Total	45