Department of Industrial Chemistry

Faculty of Science

IC (209)412 Advanced Ceramics 3(2/2-1/3)

Abbreviation

Prerequisite IC 312

This course is opened for MAJOR ELECTIVE COURSE

Course Description

Introduction to advanced ceramic materials, advanced ceramic processing, sintering, general influence of microstructure on properties of advanced ceramics, properties and behavior of advanced ceramics and ceramic composites.

Objectives

- Students will be able to understand physical and chemical principles in the processing of advanced ceramics.
- 2. Students will be able to understand relationships between system composition and processing, towards microstructures, and chemical, physical, and mechanical properties of advance ceramics.
- 3. Students will be experienced with laboratory involving advanced ceramics.

Course Content	Lecture Hours
1. Introduction to advanced ceramic materials	2
2. Advanced ceramic processing	7
3. Sintering	7
4. General influence of microstructure on properties of advanced ceramics	6
5. Properties and behavior of advanced ceramics	5
6. Ceramic composites	3
To	otal 30

Laboratory Topics	Laboratory hours
1. Special problem in advanced ceramic processing	12
2. Special problem in advanced ceramic sintering	12
3. Special problem in general influence of microstructure on properties of advanced	12
ceramic	
4. Special problem in properties and behavior of advanced ceramics	9
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