Membrane Science and Membrane Separation Processes - Course Syllabus

Course Number: CBE 336

Course Title: Membrane Science and Membrane Separation Processes

Academic Semester: Spring Academic Year: 2015/2016
Semester Start Date: Jan 24, 2016 Semester End Date: May 19, 2016

Class Schedule: Sunday/Wednesday 2:30-4 pm

Classroom Number:

Instructor(s) Name(s): Ingo Pinnau
Email: ingo.pinnau@kaust.edu.sa
Office Location: Building 4, Room 4219
Office Hours: By appointment

COURSE DESCRIPTION FROM PROGRAM GUIDE


COMPREHENSIVE COURSE DESCRIPTION

Week 1 Introduction to Membrane Science
Week 2 Membrane Structures and Functionality
Week 3 Transport in Membranes
Week 4 Materials Science of Membranes
Week 5 Membrane Formation
Week 6 Membrane Modification
Week 7 Membrane Characterization
Week 8-9 Membrane Processes (MF, UF, NF, RO, Gas Separation)

Week 10 Modules and System Design

Week 11 Lab Demonstrations

Week 12 KAUST RO and Wastewater Plant Visit

Week 13-15 Project Presentations

GOALS AND OBJECTIVES

Students will learn advanced principles of state-of-the-art membrane science with specific emphasis on membrane applications, engineering, transport phenomena and materials.

REQUIRED KNOWLEDGE

Basic knowledge of transport phenomena, thermodynamics and materials science.

REFERENCE TEXTS


METHOD OF EVALUATION

<table>
<thead>
<tr>
<th>Graded content</th>
</tr>
</thead>
</table>

1. Midterm: April, 2016 (written test – closed book): 40%

2. Final: May 2016 (individual projects – report and oral exam): 60%

No make-up exams will be provided.
COURSE REQUIREMENTS

Assignments

CLASS MATERIALS, HANDOUTS, POSTING: Lecture notes will be posted on the blackboard.

COMMUNICATION INSTRUCTIONS: General communications will be posted on the blackboard. Individual communications will be carried out per e-mail. Mandatory reading material will be posted weekly on the blackboard.

Course Policies

In accordance with the University policy and professional standards, the highest levels of academic integrity are expected in this class. The code of student conduct is strictly enforced. Academic dishonesty will result in reductions in grades and/or expulsions from this class.

Additional Information

NOTE

The instructor reserves the right to make changes to this syllabus as necessary.