

In the name of Allah

Advanced Chemical Reactors

Course code: 22-16-155-01

Course Credit: 3

Level: Ph.D. students

Term: Second Term 1399-1400

Lecturer: Hossein Zohdi-Fasaei (Assistant Professor)

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Lecturing time: Saturday (17.00-19.00), Tuesday (09.00-11.00)

Recitation Sections: Virtual

Grading:

Activities	PERCENTAGES
Homework	10%
Computer Projects	20%
Mid-term exams (1 and 2)	30%
Final exam	40%

Required Text:

Levenspiel, O. *Chemical Reaction Engineering*. 3rd ed. New York, NY: Wiley, 1999. ISBN: 9780471254249.

Recommended Texts:

Fogler, H. S. *Elements of Chemical Reaction Engineering*. 4th ed. Upper Saddle River, NJ: Prentice-Hall PTR, 2006. ISBN: 9780130473943

Smith, J. *Chemical Engineering Kinetics*. 3rd ed. New York, NY: McGraw-Hill, 1981. ISBN: 9780070587106

Calendar

week #	TOPICS
1	<i>Overview of Chemical Reaction Engineering</i>
2	Heterogeneous reactions
3	
4	
5	<i>Solid Catalyzed Reactions</i>
6	
7	
8	<i>Basics of Non-Ideal Flow</i>
9	NON-IDEAL FLOW REACTORS
10	
11	
12	<i>Earliness of Mixing, Segregation, and RTD</i>
13	
15	<i>Non-isothermal reactor</i>
16	
17	Supplementary content

Recitation Sections

The purpose of the recitation section is to give you practice working difficult problems in a supportive environment, with a focus on moving from the problem statement to solvable systems of equations. We will also review homework solutions, discuss problem solving strategies, answer questions concerning lecture material, and discuss exam solutions. You must have read and thought about the homework problems before you come to recitation. Be prepared to be asked to do problems on the whiteboard.