

ChE612, Chemical Kinetics and Reactor Design

Fall 2017 Syllabus, NJIT

Time and Location: Wednesday, 6pm-9pm --- Kupfrian Hall 118

Instructor: Mirko Schoenitz,
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Course materials: <http://moodle.njit.edu>
Office hours, Mo-Fr 10am-5pm only by prior appointment

Teaching assistant TBA

Textbook, required: Elements of Chemical Reaction Engineering (5th ed),
H. Scott Fogler, Prentice Hall, ISBN: 0-13-388751-0

Exams: Two Midterm exams, One Final exam, One Term Project
Exams are open book/open notes. Exams are cumulative.
The exams and the term project each count for 25 % of the final grade.

Grading: 100-90 %: A 89-80 %: B+ 79-70 %: B
69-60 %: C+ 59-50 %: C < 50 %: F

Date	Topics	Assigned reading
6-Sep	Introduction and review of undergraduate material	Review of chapters 1 – 3
13-Sep	--"--	Review of chapters 4 – 6
20-Sep	Steady state energy balance	Sections 11.1 - 11.5. 12.1 - 12.4
27-Sep	Unsteady state energy balance	Sections 13.1 - 13.4
4-Oct	Midterm 1	
11-Oct	Data analysis and Multiple reaction systems	Sections 7.1-7.4, 8.1-8.4, 8.6
18-Oct	Non-elementary reactions, Bio-/enzymatic reactions	Sections 9.1-9.3
25-Oct	Assignment of term project	Section 12.5
1-Nov	Heterogeneous catalysis	Sections 10.1-10.4, 10.7, 5.5
8-Nov	Diffusion and Mass transfer	Sections 14.1-14.4, 15.2-15.3
15-Nov	Midterm 2	
29-Nov	Non-ideal reactors progress memo for term project due	Chapter 16
6-Dec	Segregated flow, mixing, dispersion	Sections 17.1-17.2
16-Dec	Reactor combinations term project due	Sections 18.1-18.2
15-Dec – 21-Dec (expected Weds 20-Dec)	Final exam	