Introduction to Chemical Engineering

CHEN 2100, Fall 2016

Tues and Thurs 10:10am-11:25am, 233 Mudd Building

Instructor:
Professor Scott Banta
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Grader:
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Course Description: This course serves as an introduction to the chemical engineering profession. Students are exposed to concepts used in the analysis of chemical engineering problems. Rigorous analysis of material and energy balances on open and closed systems is emphasized. An introduction to important processes in the chemical and biochemical industries is provided.

Course Topics:

1. Introduction to Chemical Engineering
2. Chemical Processes – Converting Raw Materials to Useful Products
3. Material Balances and Process Flow Calculations
4. Tools of the Trade – Reactors and Separators
5. Energy Balances – Effective Use of a Limited Resource

Textbook:
Required: Introduction to Chemical Processes: Principles, Analysis, Synthesis Regina M. Murphy, McGraw-Hill 2007 ISBN 9780072849608

Lecture Notes:
The lecture files will be placed on the Courseworks website at least 24 hours before the lecture.

Grading:

Homework	15%
Three Quizzes	15%
Two Midterm Exams	30%
Final exam	25%
Group project	15%

Other Points:

- Homeworks will be assigned near the beginning of the start of a chapter and will be due on the day of the quiz or exam.
- Homeworks must be prepared individually and professionally
- Late homework (within 24 hours) will receive a **25% deduction**. After 24 hours the homework **will not be accepted**.
- Students are encouraged to *collaborate* on the homework assignments, however copying of homework solution **will not be tolerated**.
- Copying of a homework solution from a **solution manual will not be tolerated**. This will result in an automatic grade of 0 for the entire homework assignment, and this will be reported to the University as an act of **academic dishonesty**.
- Three quizzes and three exams will be given in class in alternative order. Quizzes just cover the most recent chapter. Exams are cumulative, covering everything before.
- If (and only if) you fail a quiz or exam, you **must retake it** until a passing grade is obtained. But the maximum possible score will lower than the original. No retakes for a passing grade.
- Groups will be assigned for a collaborative group project that will be due at the end of the semester. Additional information will be provided at a later date.
- Courseworks system will be used for course maintenance and information dissemination.

Approximate weekly schedule:

Week		Topic	Chapters
1	9/6, 9/8	Introduction/Chapter 1	1
2	9/13, 9/15	Problems 1/Quiz 1	1,2
3	9/20, 9/22	Chapter 2/ChemE Cars	2
4	9/27, 9/29	Chapter 2/Problems 2	2
5	10/4, 10/6	Midterm Exam I/Chapter 3	3
6	10/11, 10/13	Chapter 3/Problems 3	3
7	10/18, 10/20	Quiz 3/Chapter 4	3,4
8	10/25, 10/27	Problems 4, Midterm Exam II	4
9	11/1, 11/3	Chapter 5, Guest Lecture	5
10	11/10	Chapter 5	5
11	11/15, 11/17	Quiz 5/Chapter 6	5,6
12	11/22	Chapter 6	6
13	11/29, 12/1	Problems 6/Quiz 6	6
14	12/6, 12/8	Final Review, Projects Due	
16	TBD	Final Exam	