ChE 210-004 – Chemical Process Calculations I
Mass Balances
Fall 2016

Dr. Deran Hanesian
374 Tiernan Hall
973 - 596 – 3597

Class Hours:
Wednesday 1:00 PM – 1:25 PM
Classroom Tiernan 112
Friday 1:00 PM – 1:25 PM
Classroom Tiernan 112

Office Hours:
Tuesday 1:45 PM – 2:25 PM
Wednesday 12:15 PM – 12:55 PM
Friday 12:15 PM – 12:55 PM

GENERAL

The three introductory courses in the sophomore year, ChE 210, ChE 230
and ChE 240, are the basic courses in chemical engineering fundamental
principles. What you learn in these three courses will appear over and over
again throughout your junior and senior courses. Therefore, it is in your
best interest to learn these subjects well now. Please plan to spend a
minimum of 10 – 15 hours per week on your homework problems for this
course. Failure to meet this goal will seriously jeopardize your successful
completion of this course and will harm your efforts in the junior and
senior years.

TEXTBOOKS

Felder, R. M., Rousseau, R.W., and Bullard, L. G., “Elementary Principles of
2016

Textbooks copied on the Internet are allowable in class exams. However, if you
copy you text, be sure it is complete. Borrowing your neighbor’s textbook during
exams is not allowed. Be sure you have your own material when taking the exam.

REFERENCE TEXTBOOK [LIBRARY, ON RESERVE]

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E. “The Properties of
New York 1987
ATTENDANCE IS MANDATORY.

Our Institute has reinstated the attendance policy. Our Faculty has passed the following attendance policy.

ATTENDANCE POLICY OF UNDERGRADUATE STUDENTS

1. The attendance policy passed by the faculty includes day and evening undergraduate students.

2. All undergraduates are expected to attend all regularly scheduled classes. In the case hybrid and fully online classes, participation in discussion forums and other required online activities is expected.

3. Sophomore students, except those with Dean’s list rating, are expected to attend regularly scheduled classes.

4. Students who expect to miss classes or exams because of religious observance (athletic activities, etc.) must submit to their instructors, by the end of the second week of classes, a written list of dates that will be missed. Students are expected to make up missed work. Faculty are expected to make reasonable attempts to accommodate students who are appropriately following this policy.

5. Instructors are obligated to explain clearly, on all syllabi to be distributed at the beginning of each semester, what is expected of students in terms of activities such as class participation, reading assignments, and reports and how these activities factor into student grades.

6. Instructors are not obligated to make allowances for student absences unless those absences are due to illness of similarly unavoidable causes. Instructors are obligated to explain clearly, early in each term, what is expected of students in terms of class participation, reading assignments, and reports.

7. When in the opinion of the instructor, a student is jeopardizing the successful completion of the academic requirements of a subject due to excessive absences; the instructor will initiate an absence warning (Academic Warning Notice), which is to be sent to the student by the instructor.

8. It is understood that this policy on attendance in no way relieves a student of his/her personal responsibility with respect to such matters as

   a) Presence in order to gain an appreciation of the basic ideas and objectives of the course.
b) Presence to gain mastery of the subject matter, ideas, and techniques developed in the course.
c) Presence to take examinations, tests and quizzes.
d) Presence to participate in oral presentations, seminars, and field trips.
e) Presence to participate in group activities such as laboratory experiments and study projects.

HOMEWORK

Homework assignments are the responsibility of the students. You are strongly advised to work on the homework problems because you will not learn this material unless you get into the material “Hands-on”. I strongly suggest that you work in teams of two or three. The homework problems will be collected at the time of each examination. NO HOMEWORK PAPERS WILL BE ACCEPTED UNLESS THE PAPERS ARE STAPLED TOGETHER. NO HOMEWORK PAPERS WILL BE ACCEPTED AFTER 12:00 NOON ON THE DAY FOLLOWING THE EXAM IF YOU HAVE FORGOTTEN TO BRING YOUR HOMEWORK TO THE EXAM. I will keep a record of the number of problems that you have worked. Homework is graded by the teaching assistant for the course.

WORKSHOP

There is a workshop in conjunction with this course with me or another instructor. Attendance is mandatory and at the end of the semester, a Grade of Satisfactory (S) or Unsatisfactory (US) depending upon your performance will be submitted. If you receive a Grade of Unsatisfactory (US) you fail the course; you cannot graduate until you pass the course.

EXAMINATIONS

There will be three semester examinations [1 hour and 25 minutes each] and a comprehensive final exam. A written excuse will be required for any examinations that are missed. WRITTEN EXCUSES MUST BE FROM A THIRD PARTY (DOCTOR, LAWYER, RELIGIOUS CLERIC, PARENT, ETC). There will be only one makeup examination. If you miss any examinations, you must take the makeup examination, which is given at the end of the semester and will cover all of the semester topics. NO CELL PHONES OR LAPTOP COMPUTERS ARE ALLOWED. ONLY THE OLD-FASHIONED POCKET CALCULATORS ARE ALLOWED. EXAMINATIONS ARE OPEN BOOKS, NO NOTES. PLACE EVERYTHING ELSE ON THE FLOOR.

COURSE GRADING
The final course grade will be based upon the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>20%</td>
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<tr>
<td>Exam 2</td>
<td>20%</td>
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<tr>
<td>Exam 3</td>
<td>20%</td>
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<tr>
<td>Homework</td>
<td>4%</td>
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<tr>
<td>Attendance</td>
<td>3%</td>
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<tr>
<td>Final Examination</td>
<td>33%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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FINAL COURSE GRADE

Generally, the final grade distribution is on the following basis:

- 85 and above: A
- 80 – 84: B+
- 75 – 79: B
- 70 – 74: C+
- 65 – 69: C
- 55 – 64: D
- < 55: F
<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPICS (F&amp;R)</th>
<th>HOMEWORK PROBLEMS</th>
</tr>
</thead>
</table>
| 1 09/06/2016 | Chapter 1-3 | Assignment 1 and 2  
Chapter 2: 2, 6, 11, 12, 14, 15, 21, 23, 24, 28, 30, 40, 42, 55  
Chapter 3: 3, 5, 8, 14, 19, 22, 25, 32, 34, 40, 43, 45, 46, 52, 56, 66 |
| 2 09/12/2016 | Continue | |
| 3 09/19/2016 | Continue | |
| 4 09/26/2016 | QUIZ 1: 09/28/2016  
Chapters 1-3  
Chapter 4, Sect 1-5 | Assignments 1 and 2 are due  
Assignment 3 |
| 5 10/03/2016 | Continue | Assignment 3  
Chapter 4: 3, 8, 9, 10, 14, 15, 16, 18, 20, 26, 31, 32, 36, 38, 42, 44, 48 |
| 6 10/10/2016 | Continue | |
| 7 10/17/2016 | Continue | |
| 8 10/24/2016 | QUIZ 2: 10/26/2016  
Chapter 4, Sect 1-5  
Chapter 4, Sec 6-10 | Assignment 3 is due |
| 9 10/31/2016 | Chapter 4 Sect 6-10 | Assignment 4  
Chapter 4: 52, 53, 57, 67, 69, 71, 73, 75, 78, 92, 93, 95, 96, 99 |
| 10 11/07/2016 | Continue | |
| 11 11/14/2016 | Continue | |
| 12 11/21/2016 | | Assignment 4 is due |
Chapter 4,  
Sect 6-10 | Assignment 5  
Chapter 10: 3, 4, 8, 10, 12, 14, 17, 24 |
| 14 12/05/2016 | Chapter 10,  
Pages 570-581 | |
| 15 12/12/2016 | Final Exams | Reading Day, December 15, 2016 |