

## **CHEM 970 ENGINEERING CHEMISTRY 2**

### **Spring 2018**

**Dr. Hannah R. Morris**  
**Office: 107B Chevron**  
**Phone: 412-624-8031**  
**Email: hrmorris@pitt.edu**

CHEM 970-1035 CRN 11138 MW 10:00-10:50 Benedum 229  
CHEM 970-1045 CRN 11136 MW 11:00-11:50 Benedum 229  
AND Thursday 8:00-8:50 Chevron 152

The course is on Course Web and will contain lecture notes, quiz and exam solutions, etc.

### **Course Overview**

CHEM 0970 is the second semester course in general chemistry that includes lecture, recitation, and laboratory for engineers. This course is concerned with the fundamentals of chemistry and will provide an introduction into solution properties, chemical equilibrium, kinetics, acid/base chemistry, electrochemistry, thermodynamics and nuclear chemistry.

### **Office Hours**

Tues 10-12, Wed 1-2:30, Thurs. 9-11 or by appointment  
I can be contacted by e-mail or phone as needed.

### **Recitations**

In addition to the above lectures, you **must** attend one recitation/lab section weekly. The first hour is the recitation section, led by a graduate student teaching assistant (TA). A quiz will also be given most weeks – see the schedule at the end of this syllabus for the exact schedule. Hours 2-4 are the lab portion and are usually led by a different graduate student. Labs take place in the same room as the recitation.

You should always go to the recitation you are registered for. But, if for some reason you miss your recitation, go to another one during that week if possible. If your TA is not the TA for the makeup section, write your normal TA's name and section info on the top of the quiz. Email me if you have concerns about makeups.

**NOTE:** Making up a recitation should be an occasional occurrence for a small portion of the class. It should not be a regular occurrence for anyone.

The lab portion of the course is somewhat separate from the rest of the course, although the grades are combined at the end of the term.

## **Recitation Sections:**

<b><u>Day/Time</u></b>	<b><u>Room</u></b>	<b><u>CRN</u></b>	<b><u>TA</u></b>
Mon 1:00-4:50 PM	Chevron 209	10362	Wei Chan
Mon 1:00-4:50 PM	Chevron 217	10992	James Ellis
Tues 8:00-11:50 AM	Chevron 214	10991	Gregg Huston
Tues 8:00-11:50AM	Chevron 217	10368	Wei Chan
Mon 6:00-9:50 PM	Cheveron 214	10943	James Ellis
Mon 6:00-9:50 PM	Chevron 209	10942	Wei Chan
Fri 1:00-4:50 PM	Chevron 217	11523	James Ellis

**Communication:** It is essential that you let me know if you have problems in this course as it progresses. I cannot help you after the course is over. It is best for me to slow down if/when I know that there is a problem with a topic. PLEASE contact me (email or in class/after class or schedule an appointment) if/when there is a problem or lack of understanding/communication on a topic.

## **Books and Materials:**

*Chemistry: Atoms First* by Burdge and Overby, 3<sup>rd</sup> edition

This textbook can be purchased from the bookstore, or from any other source of your choosing. You can also purchase an e-book at a lower cost at [www.mcgraw-hill.com](http://www.mcgraw-hill.com).

In addition, you will need to purchase an online homework account from [www.saplinglearning.com](http://www.saplinglearning.com) for the term in order to complete the online homework required for this course. If you bought a yearlong code from them last semester, you will not need to purchase another code and should contact their customer support for instructions on how to proceed if necessary.

For the lab portion of the course, you will be required to purchase a lab book and goggles for eye safety.

## Grades

### **Exams:**

- 3 exams, **100** points each
- a cumulative final exam, **200** points

### **Quizzes:**

- 10 quizzes, 11 points each, given during the recitation sections on the previous week's material
- the lowest score will be dropped, resulting in a total of **99** points + 1 bonus point.

### **Lab:**

The details of your lab grade will be discussed in your lab section. Lab will account for **100** points.

### **Homework:**

Homework will be completed online at [www.saplinglearning.com](http://www.saplinglearning.com). Due dates will be listed at the site. Your total homework for the term will be worth **50** points.

### **In-class Assignment:**

unannounced in-class problem sets based on material taken from current chapter includes special topic assignment  
--the lowest score will be dropped, resulting in a total of **24** points.  
--there are no make-ups for in-class assignments

### **Overall Grade:**

Exams	300 pts
Final Exam	200 pts
Quizzes	100 pts
Lab	100 pts
Homework	50 pts
In-class	24 pts
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Total	774 points

## **Grading**

**Student performance will be evaluated based on homework assignments, quizzes, labs and exams:**

Your total points will be added up at the end of the term. I will calculate the class average and fix that at about 75% , adding or subtracting points in order to do so. The resulting scores will then be applied to a strict 97/93/90/87/83/80.....etc scale.

Do not rely on a curve in this class. Often the curve is small. Any curve that does exist is at my discretion and will not be determined until the end of term.

**Exam Regrade Policy** If you feel that your exam was not graded fairly, you may request a re-grade. To do so, you must submit your exam with your dispute, **in writing**, within two class days of getting your exam back. Your dispute must explain which question you feel was incorrectly graded and an explanation of why you deserve more credit. Note: I reserve the right to re-grade the entire exam when it is handed in for a re-grade. Do not expect to request an exam regrade once the term has ended. Do not bring an exam to me long after the exam was taken.

**WARNING: I will be copying a portion of the exams before handing them back to students. If you change your answers after you get your exams back and then submit them for a re-grade, you risk being caught in violation of the academic integrity guidelines. The consequences for this are severe.**

## **Makeup Policy**

**THERE ARE NO MAKEUP EXAMS.** If you have extreme circumstances, see me ASAP. If you suddenly have reason to miss an exam (extreme sickness, death, etc), you are responsible for contacting me as soon as humanly possible. If you know ahead of time that you cannot make an exam, talk to me as soon as possible to make other arrangements.

Note: Sleeping in **IS NOT** an acceptable reason for a makeup.

## **Academic Integrity**

All of us are expected to follow the University of Pittsburgh's academic integrity guidelines. They can be obtained from the CAS Dean's Office or at [www.fcas.pitt.edu](http://www.fcas.pitt.edu), the undergraduate studies site. Violations of these guidelines can result in zero points for **an exam or failure for the course.**

## **Disabilities**

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resourced and Services, 216 William Pitt Union, 412-648-7890 as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

## **Additional Help**

Your first source of help should be my office hours and your recitation instructor's office hours. In addition to this, the Academic Resource Center (ARC) will be offering tutoring in The Gardner Steel Conference Center. There is also free tutoring on the Chevron balcony (2<sup>nd</sup> floor). The schedule is posted in the Chemistry Undergraduate office Room 107. The EXCEL program also has tutoring for students in its program.

## **Final Exam Policy**

You need to check your final exam policy early in the term. If you have three or more finals on the same day, you need to print the form from the Registrar's website, obtain faculty signatures, and file the form with the Registrar. They will move one of your finals for you. Please note that there is a deadline for the submission of this form, and students filing forms after that date will not be given relief.

**CHEM 970 LECTURE SCHEDULE      SPRING 2018**

Week	Dates	Mon	Wed	Thu
1	Jan 8, 10, 11	Welcome/Chap 13	Chap 13	Chap 13
2	Jan 15, 17, 18	<i>No Class</i>	Chap 13/19	Chap 19
3	Jan 22, 24, 25	Chap 19	Chap 19	Chap 19
4	Jan 29, 31, Feb 1	Chap 15	Chap 15	Chap 15/16
<b>5</b>	Feb 5, 7, 8	Chap 16	Chap 16	<b>Exam 1 Ch 13, 19, 15</b>
6	Feb 12, 14, 15	Chap 16	Chap 16	Chap 16
7	Feb 19, 21, 22	Chap 16/17	Chap 17	Chap 17
8	Feb 26, 28, Mar 1	Chap 17	Chap 17	Chap 17
	Mar 5, 7, 8	<b>SPRING BREAK</b>		
<b>9</b>	Mar 12, 14, 15	Chap 14	Chap 14	<b>Exam 2 Ch 16-17</b>
10	Mar 19, 21, 22	Chap 14	Chap 14/18	Chap 18
11	Mar 26, 28, 29	Chap 18	Chap 18	Chap 18
12	Apr 2, 4, 5	Chap 18/20	Chap 20	Chap 20
<b>13</b>	Apr 9, 11, 12	Chap 20	Chap 20	<b>Exam 3 Ch 14, 18, 20</b>
14	Apr 16, 18, 19	Chap 24	Chap 24	Ch 24
15	<b>FINAL      WED APR 25      10:00-11:50 AM      ROOM TBA</b>			

**GENERAL INFORMATION**

The above schedule is tentative and is subject to changes by the instructor which will be announced in class. However the exam schedule is fixed as these times correspond to the day when all 3 sections are combined into a single group.

**CHEM 970 LAB & RECITATION SCHEDULE****SPRING 2018**

Week	Dates	Lab	Quiz?
1	Jan 8-12	Lab Check-In & #1 Scientific Measurements	Welcome
2	Jan 15-19	<i>No Lab Monday</i> #2 Chromatography	Quiz 1*
3	Jan 22-26	#3 Freezing Points of Solutions	Quiz 2
4	Jan 29-Feb 2	#4 Thermochemistry I	Quiz 3
5	Feb 5-9	#5 Molecular Modelling	No
6	Feb 12-16	#6 Rates of Reaction	Quiz 4
7	Feb 19-23	#7 Equilibrium Study	Quiz 5
8	Feb 26-Mar 2	#8 Acids, Bases, Salts and Buffers	Quiz 6
	Mar 5-9	<b>SPRING BREAK</b>	
9	Mar 12-16	#9 Acid-Base Titration	No
10	Mar 19-23	#10 Thermochemistry II	Quiz 7
11	Mar 26-30	#11 Thermochemistry and Solubility of KHT	Quiz 8
12	Apr 2-6	#12 Redox Reactions	Quiz 9
13	Apr 9-13	#13 Electrochemistry	No
14	Apr 16-20	Lab Exam/Survey/Checkout	Quiz 10

Each quiz will be on the previous week's lectures.

\*Martin Luther King week Monday recitation will have an on-line quiz