General Chemistry II
CHEM 1020 Section 1
Winter Quarter, 2017

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Lecture: MWF 8:00 a.m. – 8:50 am (F.W. Olin 205)

Recitation: T 8:00 a.m. – 8:50 am (F.W. Olin 205)

Office Hours: MTW 9:00 – 10:00 a.m., or by appointment. Please email for appointments.

Required Text: ***Chemistry: The Molecular Nature of Matter and Change*** *- 7th Edition by* Martin Silberberg (Author), Patricia Amateis

Course Objective:
This course is the second half of the General Chemistry sequence, and so our major objective is to build on your knowledge from General Chemistry I. We will continue to learn the basic chemical principles – from Gen Chem I, their scope and limitations, and applications in solving scientific problems. The organic progression of each chapter covered in this course would follow four learning objectives, which can be further summarized under the following cognitive levels of learning:

- To learn, understand, and recall basic chemical principles (**Lower level**)
- To apply basic chemical principles to solve simple problems (**Lower Medium Level**)
- To recognize and draw connections among three or more basic chemical principles that are important for the right critical thinking process to solve challenging problems (**Higher medium Level)**
- To analyze and evaluate each solved problem based on your knowledge of different chemical principle and to be able to recognized new principles when applicable (**High Level**)

Once at this High Level of cognitive reasoning, we believe you now have a good understanding of the course and of the basic chemical principles used by chemist and

scientist around the world to investigate chemical systems. And most importantly, you are prepared for upper level chemistry courses.

To get the most out of this course, it is advisable that you:

- Review the Silberberg textbook before and after each class; preferably, read or scheme through the whole chapter before it is covered in lecture.
- Conduct searches after each class to find applications of the chemistry covered in class
- Solve as many problems as possible instead of memorizing. This means that consistent work is required each day and it will pay off much more than cramming for an exam the day before, or piling up assignment until the last minute.

Lectures: The lectures will generally follow the progression of the textbook. Most lectures will be presented on PowerPoint slides and the whiteboard. ***Attending every class and taking meaningful notes is incredibly important for this class.*** Keeping up with the reading will help you better understand the lectures and take more meaningful notes. Also, we will work through problems during lectures and recitations to help you understand each concept and also build the necessary problem solving skills required to excel in the class.

Recitation: Tuesday recitations will give us an opportunity to go over challenging problems from the homework assignments or review particular topics. We may use some recitation sections for normal lectures. There may also be short quizzes (1-2 questions, ~20 min) during recitation.

Problems: You should work as many homework problems as possible. The exams will focus on simple and challenging problems. Most challenging type problems require thorough understanding of the major concepts, sequential application of these concepts, and an ability to connect these concepts together to arrive at a desired solution. The only way to prepare for this type problems is to practice, practice, and practice. Both problem types can be found in your text, and additional problems will be provided in class and during recitation. **A good strategy to study may be to solve all the odd-numbered problems initially, and then the even ones as part of your exam review**. You are required to keep a separate, dedicated notebook for all solved problems in the course – it will make studying a lot easier and the notebook will come in handy for quick revision before exams.

Also, solving problems together as a group can be very helpful and I encourage you to go over problems together in small groups, especially, after working on the problems yourself. Your peers might have a different way of looking at a problem, which can be of help to you. In addition, working together and helping to tutor the subject to your peers is one good way to understand the concept yourself.

Homework: Homework is essential for developing the required skill set necessary to succeed in this course. The homework would be in two parts. The first is the "general homework" where you solve assigned end-of-chapter problems and the second would be

in the form of "specific assignments" and would include in-class assigned problems, research paper reviews, or quizzes.

- **General Homework:** For this homework, you are expected to keep a dedicated notebook for all assigned and unassigned problems you solve outside of class from the Silberberg text. Each week you will work on all the end-of-chapter problems corresponding to sections in the chapter covered during lecture for that week. And your solutions and thought process should be documented in your notebook. Since most of you already have the solution manual to the Silberberg text, grading would be based on your analysis of the problem, strategy, and approach. **No point would be awarded for copying solutions from the manual** to your notebook without proper analysis and discussion of the concept(s) being tested in each question. You should begin each section on a fresh page and individual chapters should be marked and separated by a blank page. *Remember to only work on end-of-chapter problems for sections covered during the week, that is Monday to Friday, and turn in the practice notebooks (PNB) every Monday, 5:00 p.m.*

- **Specific Assignments:** Instructions for these assignments would be discussed in class or posted on Canvas.

Calculator: A simple calculator would be suitable for the calculations covered in this course. Your calculator should be capable of scientific notation, log, and exponential functions. If a graphing calculator is used, you must clear the memory before receiving the exam. On a typical TI-XX graphing calculator, the sequence is to press 2nd then '+' (MEM), then Reset, All RAM, Reset. A message will be displayed as RAM Cleared. This must be displayed before receiving the exam.

Exams: There will be two midterms and a final exam this quarter. Each exam is worth 200 points and the final exam is also worth 200 points. If your final exam score is higher than either midterm exam score, the lowest score will be dropped and the final will count for 400 points. **Remember the final exam is cumulative.**

Final Grade: Your final grade will be determined out of the 800 earned points from exams, quizzes, and homework (plus all earned bonus points). **There will be no makeup exams.** If you miss an exam for any reason, that exam will be dropped and the final will count for 400 points**. The final exam is not optional – NO EXCEPTION**

Grade	Range	Grade	Range
A	100 – 94 %	C-	<74 – 70%
A-	<94 – 90%	D+	<70 – 67%
B+	<90 – 87%	D	<67 – 64%
B	<87 – 84%	D-	<64 – 61%
B-	<84 – 80%	F	<60 – 0%
C+	<80 – 77%		
C	<77 – 74%		

Note: Final grades and percentage ranges are subject to change by the instructor

Cell Phone and Electronic Device Policy:
While I understand that mobile devices have become integral to our lives, they are disruptive to the learning environment. Therefore, I request that all electronic devices be turned off (not muted) during class (i.e.; please don't text/Facebook during class). If an emergency arises, and you need to contact the outside world during our lecture or recitation time, I request that you quietly leave the room and conduct your conversation outside.

Lecture and Testing Accommodations:
I will make every effort to accommodate students diagnosed with a learning disability. I will do this in complete confidence. I do, however, request that any student requiring these accommodations inform me the first week of class. For further information, please see the University Disability Services' website at http://www.du.edu/disability/dsp/index.html.

Academic Integrity:
While I advocate collaborative learning and teamwork, I also firmly believe that each individual should maintain the highest ethical standards. As such, I support and will strictly enforce the Honor Code of the University of Denver. www.du.edu/honorcode.

Honor Code Statement.
All members of the University of Denver are expected to uphold the values of *Integrity*, *Respect*, and *Responsibility*. These values embody the standards of conduct for students, staff, faculty, and administrators as members of the University community. These values are defined as:

Integrity: acting in an honest and ethical manner;
Respect: honoring differences in people, ideas, and opinions;
Responsibility: accepting ownership for one's own conduct.

Pioneer Pledge.
As a University of Denver Pioneer I pledge…

- to act with INTEGRITY and pursue academic excellence;
- to RESPECT differences in people, ideas, and opinions and;
- to accept my RESPONSIBILITY as a local and global citizen;

Because I take pride in the University of Denver I will uphold the *Honor Code* and encourage others to follow my example.

Topics to be covered: Tentative Course Schedule – Subject to Change

Weeks	Date'17	Topic	Reading	Due
	T - 01/03	Chapter 20: Thermodynamics	Ch20	
	W- 01/04	Chapter 20: *Continued*		
Wk1	F - 01/06	Chapter 20*: Continue*		
	M - 01/09	Chapter 20*: Continued*		*PNB*
Wk2	W - 01/11	Chapter 17: Equilibrium Sys.	Ch17	
	F - 01/13	Chapter 17: *Continued*		
	M - 01/16	MLK - **Holiday**		*PNB*
	W - 01/18	Chapter 17: *Continued*		
Wk3	F - 01/20	Chapter 17: *Continued*		
	M - 01/23	Chapter 17: *Continued*		*PNB*
	W - 01/25	**Exam 1**		
Wk4	F - 01/27	Chapter 18: Acid-Base Equilibria	Ch18	
	M - 01/30	Chapter 18: *Continued*		*PNB*
	W - 02/01	Chapter 18: *Continued*		
Wk5	F - 02/03	Chapter 18: *Continued*		
	M - 02/06	Chapter 18: *Continued*		*PNB*
Wk6	W - 02/08	Chapter 18: *Continued*		
	F - 02/10	Chapter 19: Ionic Equilibria in Aqueous Systems	Ch19	
	M - 02/13	Chapter 19: *Continued*		*PNB*
Wk7	W - 02/15	Chapter 19: *Continued*		
	F - 02/17	Chapter 19: *Continued*		
	M - 02/20	Chapter 19: *Continued*		*PNB*
Wk8	W - 02/22	**Exam 2 (Cumulative)**		
	F - 02/24	Chapter 16: Chemical Kinetics	Ch16	
	M - 02/27	Chapter 16: *Continued*		*PNB*
Wk9	W - 03/01	Chapter 16: *Continued*		
	F - 03/03	Chapter 16: *Continued*		
	M - 03/06	Chapter 16: *Continued*		*PNB*
Wk10	W - 03/08	Chapter 16: *Continued*		
	F - 03/10	Final Review	Ch16-20	
	03/14	**Final Exam (Cumulative)**		

C**anvas and Class Notes:**
Lecture information will be presented on PowerPoint slides and the whiteboard. The slides will be posted – weekly, on Canvas in addition to other useful learning materials including suggested problems and assignments.

Exam Notes:
All exams will test your understanding and ability to apply basic chemical principles to solve problems and not how much cramming you can do. Learn the principles and solve problems to prepare for each exam.