Spring 2015 - CHEMISTRY 110-003 Chemistry Course ID 20152 Credit hours: 3

Instructor: Dr. Catherine E. Check **E-mail**: CCheck@niu.edu **Office**: La Tourette Hall 308
Office Hours: Tu and Th @ 7:15 to 8:00 PM (or by appointment before class)
On-Line Course Information: Blackboard (https://webcourses.niu.edu) and Connect on-line package from McGraw-Hill.
Materials: Used in all CHEM 110 sections: Textbook: custom edition subset of General, Organic, and Biochemistry 8th edition, by Denniston, Topping, and Caret; scientific calculator; online e-book and homework package required.
Lecture Times: Tuesday and Thursday 6:00 to 7:15 PM Faraday Hall 143

Tutors and Lab TA Office Hours: The Department of Chemistry and Biochemistry maintains a free Tutor Room for General Chemistry students. The Tutor Room is located in **Faraday 247** and the schedule will be posted online (http://www.chembio.niu.edu/chembio/aboutus/help_room.shtml) and outside the help room door. Students are also encouraged to ask laboratory TAs for assistance in understanding the lecture material.
Paid Tutors - Names of tutors for hire are available from Linda Davis in Faraday Hall 319 (Chem. Dept. office).

Exams and Grading:

Exams – There will be four 100-point hour exams, with each exam covering content from 2-3 chapters. Three of the exams will be administered during the regular semester (dates are indicated in the lecture schedule) and the last 100 point exam will be administered as Part I of the final exam. *The lowest regular exam score will be dropped. This allows you to miss an exam if absolutely necessary, and minimizes the effect of one poor score on the overall grade.* ***There will be no make-up exams or extra credit points.*** *The professor will deal with any issues that affect your ability to take an exam (medical issues, weather closures, etc.) on a case by case basis.*

Homework/Participation – 100 points (The assignments will be linked through Blackboard. When available, a reminder will be given during lecture time.)

Final Exam - The final exam will consist of two parts: Part I counts as one of the four 100 pt. hour exams described above, and Part II is a 100 pt. comprehensive exam.

Total points:	hourly exams	= 300 pts. (lowest of four exams is dropped)
	homework/participation	= 100 pts. (average of McGraw-Hill Connect online assignments)
	comprehensive final exam	= 100 pts.
	total	= 500 pts.

Grading scale:	A ≥ 90%	B ≥ 80%	C ≥ 70%	D ≥ 60%	F < 60%
	A ≥ 450 pts.	B ≥ 400 pts	C ≥ 350 pts	D ≥ 300 pts	F < 300 pts

Accessibility Statement: Northern Illinois University is committed to providing an accessible educational environment in collaboration with the Disability Resource Center (DRC). Any student requiring an academic accommodation due to a disability should let his or her faculty member know as soon as possible. Students who need academic accommodations based on the impact of a disability will be encouraged to contact the DRC if they have not done so already. The DRC is located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 (V) or drc@niu.edu.

Academic Integrity. Good academic work must be based on honesty. The attempt of any student to present as his or her own work that which he or she has not produced is regarded by the faculty and administration as a serious offense. Students are considered to have cheated if they copy the work of another during an examination or turn in a paper or an assignment written, in whole or in part, by someone else. Students are responsible for plagiarism, intentional or not, if they copy material from books, magazines, or other sources without identifying and acknowledging those sources or if they paraphrase ideas from such sources without acknowledging them.

Students responsible for, or assisting others in, either cheating or plagiarism on an assignment, quiz, or examination may receive a grade of F for the course involved and may be suspended or dismissed from the university.

TENTATIVE LECTURE SCHEDULE*

WEEK	CHAPTER/TOPIC	Exam
1. 1/12	Introduction/Chapter 1 (Sections 1.1-1.2)	
2. 1/19	Chapter 1. (Sections. 1.3-1.5)	
3. 1/26	Chapter 2. (Sections 2.1-2.5)	
4. 2/2	Chapter 2. (Sections 2.6-2.7)	2/5 Exam 1
5. 2/9	Chapter 3. (Sections 3.1-3.2)	
6. 2/16	Chapter 3. (Sections 3.3-3.5); Chapter 4. (Section 4.1)	
7. 2/23	Chapter 4. (Sections 4.2-4.3)	
8. 3/2	Chapter 4. (Sections 4.4-4.5)	3/5 Exam 2
	3/9-3/13 Spring Recess	
9. 3/16	Chapter 5. (sections 5.1-5.2)	
10. 3/23	Chapter 5. (Section 5.3); Chapter 6. (Sections 6.1-6.4)	
11. 3/30	Chapter 6. (Sections 6.5-6.6); Chapter 7. (Sections 7.1-7.2)	
12. 4/6	Chapter 7. (Sections 7.3-7.4)	4/9 Exam 3
13. 4/13	Chapter 8. (Sections 8.1-8.2)	
14. 4/20	Chapter 8. (Sections 8.3-8.5)	
15. 4/27	Chapter 9. (Sections 9.1-9.7)	
16. 5/5	Tuesday May 6:00 to 7:50 PM	Exam 4 and Final Exam

General Education Course Objectives

- Improve ability to think critically and logically
- Perform basic chemical computations and improve ability to reason quantitatively
- Improve ability to interpret mathematical models
- Learn how to use the scientific method and theories to understand chemical phenomena
- Develop an appreciation for the importance of the role of chemistry in everyday life
- Develop an understanding of the historical development of the field of chemistry

Course Content Objectives

- Understand concepts of matter and energy and become acquainted with metric and SI units of measurement
- Understand atoms and ions and their subatomic components
- Learn the electronic structures of atoms and ions, and understand their relationship to periodic properties
- Correctly predict the shapes of molecules and ions from Lewis dot/VSEPR characteristics
- Learn chemical nomenclature
- Learn basic stoichiometry calculations
- Develop ability to predict outcomes of chemical reactions from knowledge of reactants and reaction types
- Understand the chemical basis for the physical behavior of gases, liquids, and solids
- Become knowledgeable about the properties of aqueous solutions
- Develop the ability to predict reactions and equilibria from knowledge of Le Chatelier's Principle
- Understand the physicochemical characteristics of acids, bases, oxidants, and reductants
- Become knowledgeable about nuclear chemistry and its applications to medical fields