Chemistry 106 - Fundamental Chemistry
Spring 2017
Dr. Erin Speetzen

Contact Information

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Office Hours

Monday 3 p.m. – 4 p.m.
Tuesday 11 a.m. – 12 p.m
Wednesday 2 p.m. – 3 p.m.
Thursday 11 a.m. – 12 p.m.

The best way to reach me is via my university email. I check my email periodically throughout the workday. I do not check email at night or during the weekend.

Meeting Times

Lecture: Monday, Tuesday, Thursday 2 – 2:50 p.m. SCI A121.

Lab/Discussion:

Section Number	Discussion (Room)	Lab (Room)	Lab Instructor
8	W 10 – 10:50 (A110)	M 8:00 – 10:50 (B140)	Arin Lemke
9	W 11 – 11:50 (A110)	R 8:00 – 10:50 (B140)	Arin Lemke
10	W 12 – 12:50 (A110)	F 11:00 – 1:50 (B140)	Erin Speetzen

Prerequisites

Chem 105, Math 100 or higher

Required Materials

Textbook

Chemistry – an Atoms-Focused Approach Gilbert, Kirss, and Foster, 1st Edition, Norton, *2014*. This book is available for rental at the University Bookstore.

Lab Manual

Chem. 106 Lab Manual – Spring 2017, UW-Stevens Point. This lab manual is available for purchase at the University Bookstore.

Lab Notebook Barbakam, 100 page, carbonless, spiral lab notebook. This is available for purchase in the bookstore, next to the lab manuals. If you have one from Chem 105 last fall you do not need to purchase a new one.

SmartWork Registration Code Details for how to purchase this are on the course D2L site. The cost is $25.

Scientific Calculator

Your calculator must be able to do logarithms. You will not be allowed graphing calculators or any calculator with a QWERTY or alphabetical keyboard. Calculators that meet these requirements can be purchased at the University Bookstore, office supply stores such as Staples or Office Depot, or at other stores such as Target, Walmart, etc. for around $10.

Optional Materials

3-Ring Binder

In order to better keep track of course materials, some students may find that using a 3 ring binder is beneficial as it allows you to more easily incorporate handouts or figures into your notes.

Laptop Computer

Students wishing to take their notes electronically are more than welcome to do so. One warning, we will be using many mathematical equations and expressions in this course, which may be hard to accurately incorporate into a Word or OneNote document. I reserve the right to ban laptops if students are using them for inappropriate activities.

Course Description

Fundamental principles and theories of chemistry, including stoichiometry, atomic and molecular structure and bonding, nuclear chemistry, thermodynamics, descriptive chemistry of nonmetals and transition metals, chemical kinetics and equilibria, introduction to organic chemistry. A continuation of Chemistry 105.

Course Learning Outcomes

1. Be able to use qualitative and quantitative skills to solve chemistry problems.
2. Be able to use the theories of chemistry to explain chemical and/or physical phenomena.
3. Be able to organize and present data in such a way as to draw reasonable and defendable conclusions.
4. Be able to demonstrate appropriate and safe laboratory procedures within the chemistry lab.

This Course Meets the Following General Education Learning Outcomes

1. Identify the basic taxonomy and principles of the scientific method as it pertains to the natural, physical world.
2. Infer relationships, make predictions and solve problems based on an analysis of evidence or scientific information.
3. Apply scientific concepts, quantitative techniques and methods to solving problems and making decisions.
4. Describe the relevance of some aspect of the natural sciences to your lives and society.

Classroom procedures

This course consists of a lecture, discussion, and laboratory. Time spent during lecture may be used in a variety of ways including lecture, small and large group discussion, and group activities. Discussion will be devoted to smaller group discussions/activities aimed to improve your understanding of the material, as well as time for you to ask questions about things that you are struggling with or things that you are interested in. The laboratory period will be used to build and assess your skills in the laboratory.

Preparation/Participation

Before coming to class each day you should read through the assigned reading (rarely more than 10 pages and often with many pictures/tables). I do not expect that you understand all the material before coming to class, however, I do expect that you are familiar enough with the material that we can discuss it without having to stop to define each new word.

During class I expect that you pay attention (to the best of your abilities), refrain from using technology (ipods, laptops, cell-phones, etc.) in a disruptive way, and participate in class discussions and activities. Participation is not awarded its own grade, but in my experience students who participate in class tend to do better than those who do not.

Recommended study habits and tips

Chemistry is not an easy subject to master, and you should not expect to master it without hard work. The general rule of thumb is that <u>you should spend 2 – 3 hours of time outside of class for each hour that you are in class</u>. Chem 106 is a 5 credit class, which means that you should plan on spending 10 – 15 hours a week preparing for class, working though end-of chapter problems, working on class assignments, and studying for exams. The best way to break this time up is to spend a little bit of time working on chemistry each day. Chemistry can become incredibly overwhelming if you wait until the night before the exam to start studying.

Here are some study habits and tips that may be useful.

- Before coming to class each day, quickly review your notes from the previous day. You don't need to spend much time on this (5 – 10 minutes), but it will remind you of what we have covered and of any questions you would like cleared up before we move on to new material.
- When taking notes in class leave a lot of white space so that you can go back and fill in gaps later. After class, sit down with a friend and compare notes. Fill in the things you are missing. When you are done read through your notes and see if they make sense. If not, talk to a friend, reread sections of the book, or talk to the professor to keep filling in the gaps until things make sense.
- Do as many problems as possible! On exams I won't be asking you how you feel about chemistry, I'll be asking you to answer/solve chemistry problems. In order to do that you need to know how to answer/solve chemistry problems. The best way to learn this, or any other skill, is practice, practice, and more practice!

Grading

Laboratory component:	130 pts
Lecture component:	
9 Homework Assignments @ 10 pts each	90 pts
2 50-minute exams @ 70 pts each	140 pts
Midterm Exam	120 pts
Final Exam	120 pts
Total Lecture Points	470 pts

Total Points in Course: 600 pts

Your grade in the course will be determined using the following scale

Letter Grade	Minimum % Needed	Minimum Points Needed	Letter Grade	Minimum % Needed	Minimum Points Needed
A	93	558	C+	77	462
A-	90	540	C	73	438
B+	87	522	C-	70	420
B	83	498	D+	67	402
B-	80	480	D	63	378

Students earning less than 378 points will earn a grade of F in the course.

50-minute exams – Two 50-minute exams will be given during the semester. These exams will occur during the normal class period.

Midterm Exam – One midterm exam will be given the week before spring break. It will be a two-hour night exam.

Final Exam – One two-hour cumulative final exam will be given at the end of the semester.

Exam make-ups will only be allowed for emergencies (illness, death in the family, etc.) and/or school sponsored events and only with proper documentation. Not feeling prepared for the exam is not grounds for a make-up.

Lab Reports – You will be completing 13 lab activities during the semester. Twelve labs are worth 10 points, one is worth 20 points. ***I will drop your lowest 10 point lab score.***

Homework– You will be completing 10 online homework activities over the course of the semester: one Chem105/Math review assignment, 8 chapter-based homework assignments, and a cumulative end-of-semester homework assignment. ***Each homework assignment will be worth 10 points. I will drop your lowest chapter-based homework score.*** A separate handout will be provided that will provide more information about the online homework.

Rights and Responsibilities

UWSP values a safe, honest, respectful, and inviting learning environment. In order to ensure that each student has the opportunity to success, we have developed a set of expectations for all students and instructors. This set of expectations is known as the *Rights and Responsibilities* document (http://www.uwsp.edu/dos/Documents/CommunityRights.pdf) and it is intended to help establish a positive living and learning environment at UWSP.

Academic Misconduct

The definition of academic misconduct can be found starting on page 11 of the Community Right and Responsibilities document found at
http://www.uwsp.edu/dos/Documents/CommunityRights.pdf
Students found to have engaged in academic misconduct on homework or labs will receive a score of zero on the assignment for the first offense and an F in the course for the second offense. Students found to have engaged in academic misconduct on an exam will receive a grade of F for the course.

Suggested Problems

A great deal of chemistry focuses on solving problems. As a result, a significant portion of your homework and exams will deal with solving problems related to chemistry. As with any endeavor, the only way to get good at something is to practice. For each chapter I would recommend that you complete as many of the end of chapter problems as possible. The answers to the bold end of chapter problems can be found in the back of your book.

Disability Services

The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for students with disabilities. If you have a disability and require classroom or exam accommodation, please register with the Disabilities Services offer and then contact me.
In order to receive accommodations you must have documentation of your disability on file with the Office of Disability Services. In addition, you must provide me with an Accommodations Request Form (available at the website). You must have me sign the form and return it to the Office of Disability Services.

Important Dates

Jan. 23	Classes Begin
Feb. 1	Last day to drop a 16 week course without a grade
Mar. 17	Spring break begins at 6 p.m.
Mar. 27	Classes resume
Apr. 7	Last day to drop a 16 week course.
May 12	Last day of class

Tentative Lecture Schedule

The instructor reserves the right to change this schedule as needed. Any changes will be announced in advance via an in-class announcement. If you miss class be sure to talk to your classmates about any announcements you may have missed.

Week	Descriptions	Homework Due
1	Chapter 10	HW 0 – Sun Jan 29th 11:59 p.m.
2	Chapter 10/11	Ch 10 – Sun Feb 2nd 11:59 p.m.
3	Chapter 11/12	Ch 11 HW – Sun Feb 12th 11:59 p.m.
4	Chapter 12	Ch 12 HW – Sun Feb 19th 11:59 p.m.
5	Chapter 13	
6	Chapter 13	Ch 13 HW – Sun Mar 5th 11:59 p.m.
7	Chapter 14	
8	Chapter 14	
Spring Break – No Classes		
9	Chapter 14/15	Ch 14 HW – Sun Apr 2nd 11:59 p.m.
10	Chapter 15	Ch 15 Part 1 HW – Sun Apr 9th 11:59 p.m.
11	Chapter 15	
12	Chapter 15/17	Ch 15 Part 2 HW – Sun Apr 23rd 11:59 p.m.
13	Chapter 17	
14	Chapter 21	Ch 17 HW – Sun May 7th 11:59 p.m.
15	Chapter 21	Cumulative HW – Sun May 14th 11:59 p.m.

Exam Schedule

Exam	Date	Time	Room
Exam 1 (50 minute)	Monday 2/20	2 – 2:50 p.m.	A121
Midterm Exam	Wednesday 3/15	6 – 8 p.m.	A121
Exam 2 (50 minute)	Monday 4/24	2 – 2:50 p.m.	A121
Final Exam	Tuesday 5/16	12:30 – 2:30 p.m.	A121