

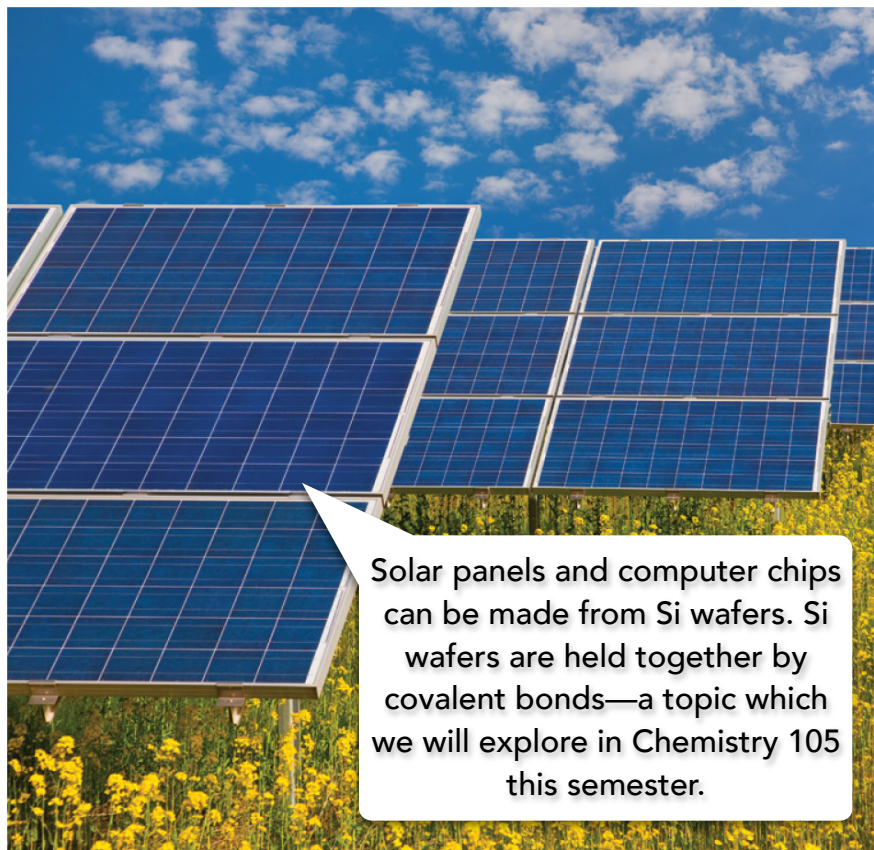
Chemistry 105

Fundamental
Chemistry

Spring 2017

Section 3

University of
Wisconsin-
Stevens Point



Course Description and Objectives

Chemistry is the study of matter and the changes it undergoes.

Chemistry is everywhere around us and plays an essential role in nearly every aspect of our daily lives. In Chemistry 105 we will explore many fundamental concepts of chemistry, including: atomic and molecular structure, chemical bonding, intermolecular forces, stoichiometry, reactions in

aqueous solutions, and thermochemistry.

Upon completion of Chemistry 105 the successful student will have:

- (i) mastered the fundamental chemical principles and theories of chemistry.
- (ii) obtained problem solving skills (both qualitative and quantitative).
- (iii) developed essential laboratory skills, including effectively

following procedures and working safely with chemicals.

(iv) understood how to effectively master/learn complex subject matter.

Keep an eye on our D2L website for study guides. The study guides contain more specific learning objectives, suggested reading, and suggested homework problems for each throughout the semester.

Your Professor: Dr. Mondloch (Dr. M)

Office: Sci D145

Phone Extension: (715) 346-3715

Email: jmondloc@uwsp.edu

Office Hours: M 10-11, T 4-5, Th 4-5.

Additional times available by appointment (please email me).

Course Website: Additional information can be found on the course website in D2L (CHEM 105 Fundamental Chemistry sec 8–11).

Required Materials:

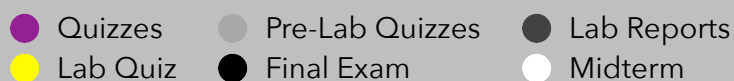
Lecture textbook Gilbert, T.R.; Kirss, R.V.; Foster, N. Chemistry An Atoms Focused Approach 1st Edition (ISBN: 978-0-393-91234-0).

Laboratory manual Chemistry 105 Lab Manual Spring 2017 for Bowling, Czerwinski, & Mondloch.

Class Outline

	Section	Day(s)	Time	Location	Instructor
Lecture	Sec 3	M, T, Th	3:00	Sci D101	Mondloch
Discussion	Sec 8	W	11:00	Sci A111	Mondloch
Discussion	Sec 9	W	12:00	Sci A111	Mondloch
Discussion	Sec 10	W	2:00	Sci A111	Mondloch
Discussion	Sec 11	W	3:00	Sci A111	Mondloch
Lab	Sec 8	T	8:00	Sci C124	McGarry
Lab	Sec 9	Th	8:00	Sci C124	McGarry
Lab	Sec 10	M	11:00	Sci C124	Mondloch
Lab	Sec 11	T	11:00	Sci C124	Lemke

Assignments & Grading



Four fifty point **quizzes** for **200 total points**.

Twelve **pre-lab reports** for **36 total points**.

Twelve **lab reports** for **48 total points**.

One **lab quiz** for **50 total points**.

Your **midterm** will be cumulative. **100 total points**. The percentage on your midterm can replace your lowest quiz score for quizzes 1 & 2.

Your **final exam** will be cumulative. **150 total points**. The percentage on your final exam grade can replace your lowest quiz score for quizzes 3 & 4.

The grading scale is shown below. I will never adjust the grade scale higher. For example, if you obtain 83% in the class, you will receive no less than a B. Please do not ask if I grade on a curve. Your grades will be regularly updated on D2L and it is YOUR responsibility to keep track of them.

Grades: A (100 - 93%); A- (<93 - 90%); B+ (<90 - 87%); B (<87 - 83%); B- (<83 - 80%); C+ (<80 - 77%); C (<77 - 73%); C- (<73 - 70%); D+ (<70 - 67%); D (<67 - 60%); F (<60%)

Lecture & Discussion

Week	Description	Quizzes/Exams
1 (1/23)	Unit 1	-
2 (1/30)	Unit 1/Unit 2	-
3 (2/6)	Unit 2	Quiz 1 (2/6)
4 (2/13)	Unit 2/Unit 3	-
5 (2/20)	Unit 3	Quiz 2 (2/20)
6 (2/27)	Unit 3	-
7 (3/6)	Unit 3/Unit 4	Quiz 3 (3/6)
8 (3/13)	Unit 4/Unit 5	-
9 (3/20)	Spring Break	-
10 (3/27)	Unit 5	Midterm (4/3)
11 (4/3)	Unit 5	-
12 (4/10)	Unit 6	-
13 (4/17)	Unit 6/Unit 7	Quiz 4 (4/17)
14 (4/24)	Unit 7	-
15 (5/1)	Unit 7	Lab Quiz (5/1)
16 (5/8)	Review	-
17 (5/14)	Finals Week	Final Exam (5/17)

Bryan Cranston played Walter White (aka Heisenberg) in the critically acclaimed TV show *Breaking Bad*. Did you know that the real Heisenberg (Werner Heisenberg) played a pivotal role in developing our view of atomic and molecular structure.



Our tentative lecture schedule is shown above; it may need to be adjusted depending on the pace of the class.

Quiz and Exam dates will NOT change. See "the fine print" for details regarding policies for makeup quizzes and exams.

Quizzes

Quizzes will be multiple choice and administered during the lecture periods (Sci D101). You should treat the quizzes as short exams. The quizzes may be cumulative in nature, but will focus on the material most recently covered in lecture and discussion.

Midterm & Final Exam

Your midterm and final exam will be multiple choice as well as cumulative. Your midterm will be administered during the lecture period (Sci D101). The final exam will be administered on Wednesday 5/17 from 2:45—4:45 (Sci D101).

Lab Quiz

The lab quiz will be multiple choice and administered during the lecture period (Sci D101). The lab quiz will be cumulative and cover the material from lab. Be sure too keep your old labs and lab report forms! They will be very useful for the lab quiz.

Some other important dates you should keep in mind over the course of the semester (for all of your classes):

Drop Day (no grade on transcript): 2/1
Drop Day (W on transcript): 4/7

In the Lab

Week	Experiment
1 (1/23)	Check In
2 (1/30)	Measurement & Significant Figures
3 (2/6)	Intro to Lab Equipment & Techniques
4 (2/13)	Density & Graphing
5 (2/20)	Law of Definite Proportions
6 (2/27)	Water in a Hydrate
7 (3/6)	Intro to Absorption Spectroscopy
8 (3/13)	Spec Determination of Iron
9 (3/20)	Spring Break!
10 (3/27)	Separation of a Mixture
11 (4/3)	Chemical Reactivity
12 (4/10)	Limiting Reactant
13 (4/17)	Titration of Vinegar Part I
14 (4/24)	Titration of Vinegar Part II
15 (5/1)	Enthalpy By Solution Calorimetry
16 (5/9)	Check Out

Dress Code

In my labs you must wear **goggles, closed toe shoes,** and **pants** in the laboratory at all times. Long hair should be tied back.

Consult your lab instructor for additional details.



The Details

Your lab instructor may or may not be me. However, every lab performs the same experiments and all labs will be graded by the same person. All questions regarding your lab grade must be directed to me.

You can NOT have more than one unexcused absence from lab over the course of the semester. Doing so will result in an F for the course. Contact me if extenuating circumstances arise.

It is your responsibility to come prepared for lab. The lab will NOT be described in detail by your instructor prior to the start of lab. Prelaboratory "quizzes" will be administered on D2L and are due prior to the start of YOUR lab period.

For most of the labs you will be working by yourself and turning in your own lab report. Lab reports are due the following week at the start of lab. Labs turned in more than one week late will not be graded.

Is this what you think of when you hear the word chemist? Most chemists spend much of their time in the lab. In Chem 105 we will learn how to work safely in the lab—is our chemist working safely in the lab?

Because we do new labs every week, make up labs are typically not possible. Please consult with me ahead of time if you have a conflict.

The Fine Print

Attendance

It is in your best interest to attend all lectures, discussions, and labs. Make up exams and labs are NOT allowed except under the following circumstances:

- (i) UWSP athletic event. Please get written authorization from your coach (not a student).
- (ii) Armed forces related training or drills. Please bring me written authorization from your supervising officer.
- (iii) Medical emergency. Please bring me authorization from your physician.
- (iv) Death in the family. Please bring me some sort of documentation.

Disability Services

There are a number of resources available for students with documented disabilities. A full listing of them can be found at <http://www.uwsp.edu/special/disability/>. Please be aware that, in order to take advantage of some of the services, you may need to provide me with an Accommodation Request Form and return it to disability services.

Study Hints

This course will not be easy for most students. Suggested homework problems are designed to alert you to your level of comprehension and encourage you to **seek help before you are in trouble!**

Suggested Study Routine:

- (i) Skim relevant text prior to class.
- (ii) Take notes in class.
- (iii) Keep a running list of potential exam topics.
- (iv) Re-write and organize your notes in conjunction with reading.
- (v) Work problems daily!**
- (vi) Identify trouble spots.

Media Devices

Use of personal multimedia devices during class meetings is not permitted unless you are using it as a note-taking device. This includes cellular phones, iPods, iPads, computer, PDAs, and other similar devices.

Tutoring Services

Supplemental Instruction (SI) offers structured, interactive study sessions designed to let you practice course concepts and review lecture material with your classmates. Your SI leader is a fellow student who has taken the course before and done well. Watch for emails and listen to class announcements to hear when and where your leader will hold their group sessions and office hour. Additional tutoring is available through the Tutoring Learning Center (<http://www.uwsp.edu/tlc/Pages/CA-tutoring.aspx>).

Academic Integrity

Academic misconduct is serious and can follow you throughout your entire academic and professional career. You are a student at the University of Wisconsin-Stevens Point and you should know the student academic standard and disciplinary procedures. More information regarding this topic can be found at the following link <http://www.uwsp.edu/dos/Pages/Academic-Misconduct.aspx>. Look at it, read it, and comprehend the decisions you make regarding your academic integrity!

Approximately 70 of the 83 stable elements on the periodic table can be found in smartphones—this accounts for 84% of the stable elements. For example, the elements below can be found in the displays of many of your smart phones. (ACS ChemMatters Teachers Guide *Smartphones: Smart Chemistry*, April 2015)

Al

O

Si

Na

K



Dr. Mondloch's Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
8 am	R,P,G	R,P,G	R,P,G	R,P,G	R,P,G
9 am	R,P,G	Lecture Prep	R,P,G	Lecture Prep	Lecture Prep
10 am	Office Hour (D145)	Chem 355 Lecture (A112)	R,P,G	Chem 355 Lecture (A112)	Chem 355 Lecture (A112)
11 am	Chem 105 Lab (C124)	R,P,G	Chem 105 Disc (8, A111)	R,P,G	R,P,G
Noon		R,P,G	Chem 105 Disc (9, A111)	R,P,G	R,P,G
1 pm		R,P,G	R,P,G	R,P,G	R,P,G
2 pm	Lecture Prep	Lecture Prep	Chem 105 Disc (10, A111)	Lecture Prep	R,P,G
3 pm	Chem 105 Lecture (D101)	Chem 105 Lecture (D101)	Chem 105 Disc (11, A111)	Chem 105 Lecture (D101)	R,P,G
4 pm	R,P,G	Office Hour (D145)	R,P,G	Office Hour (D145)	R,P,G
5 pm	R,P,G	R,P,G	R,P,G	R,P,G	R,P,G

R,P,G stands for Research, Prep, and Grading