

Chemistry 140: General Chemistry: Spring 2020

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Office Hours: M-F 11-12pm (or arranged)

Lecture: Room CSB 378, MWF 8:00-8:50 am (140-01/02)

Lab: Room CSB 312, M 2:00-4:50 (140L-01); T 2:00-4:50 (140L-02)

COURSE DESCRIPTION: *This chemistry course will begin your college-level investigation into the chemical sciences. We will cover topics, such as atomic theory, nomenclature (chemical naming), chemical reactions, stoichiometry, thermochemistry (heat generating reactions), chemical bonding, and gas behavior. The textbook uses practical applications and examples to illustrate these principles. Chemistry is an exciting field that is related to many of the other scientific disciplines. It is our hope that you will enjoy the subject matter, see the relationship between chemistry to all aspects of our lives, and gain an appreciation for the interdisciplinary nature and relevance of chemistry.*

LEARNING OBJECTIVES OF GENERAL CHEMISTRY

From general chemistry you should be able to:

1. Understand how chemistry is related to other sciences and to our daily lives.
2. Set up and solve problems related to chemical stoichiometry
3. Have an idea how and why atoms and molecules can interact and/or react.

In addition to the learning goals specific to chemistry, a general learning goal of this course is:

4. To develop your capacity to learn and solve problems independently.

By the end of class, you should be able to take the concepts we learn in general chemistry and apply them to new situations. Therefore, you need to be aware that the process of solving the problem is the most important aspect of this class and if you can't explain the process by which you get the final answer, you have not learned the material. ***Also, be aware that the study of chemistry/science is a cumulative subject; what you learn in the current chapter/material will be needed to learn/understand future chapters/material.***

TEXTBOOK: Chemistry by Chang/Goldsby 12th ed. (2016) McGraw/Hill (previous editions of Chang are suitable)

Other required materials:

Purchase of Web Assign Account (~\$40)

Duplicating notebook for the laboratory*

Scientific Calculator (cell phones are not allowed)

Notebook for homework journal

Laboratory safety glasses*

*The ACS Chemistry Club is selling the duplicating lab notebooks and safety glasses for extremely reasonable prices.

GRADING: Grades will be assigned on the following percentages from the points accumulated. We reserve the right to relax the percentages (i.e, an 89 may be an A- rather than a B+) but not tighten them.

Grading	Weight
Homework and Quizzes	10%
Class/Group Participation/Attendance	5%
Midterm Exams	40%
Final Exam	20%
Laboratory	25%

Grade	%
A	>92
A-	90-92
B+	88-90
B	83-88
B-	80-82
C+	78-80
C	72-78
C-	70-72
D	60-69
F	<60

HOURS PER WEEK WORK EXPECTATION: There is an expectation that you will complete significant work outside of the classroom and laboratory. Understand that the hours listed in the table are weekly averages. Some weeks may demand more than others; for example, in weeks that you have an exam you will need to spend more time. Additionally, some students may need more time to master the material. For example, if you have not retained the knowledge from your high school math and science courses, you may need to spend more time studying the material for general chemistry.

	Hours
Lecture	2.5
Lab Lecture and Lab	3
Outside of Lecture/lab	
Reading/Homework	4
Studying for exams/quizzes	2
Preparation for lab	1
Lab Report Sheets/Report Writing	1
Total	13.5

CLASS ATTENDANCE

A lecture is a presentation *and* discussion of concepts viewed by the instructor as most important or most difficult and in need of additional explanation. Additionally, we will be doing some group problem solving in this course. Therefore, it is expected that you will attend all classes. Your attendance in lecture will be monitored, and participation is 5% of your grade (this 5% may include quizzes). If you do not attend, you can't participate. You should take the following points into consideration when you think about not attending:

1. You are responsible for all material and announcements given in class.
2. All exams are closed book, in-class, one hour long. **There are no make up exams given, unless absence is due to school sanctioned activity (of which you must notify us at least a week in advance), verifiable illness or verifiable family emergency.**
3. More than 4 unexcused absences will result in course grade of F. For an excused absence, you must notify one of the instructors before class. If you are more than 5 minutes late, it will be recorded as an absence.

READING ASSIGNMENTS: Reading assignments will be provided during class. You should *skim* each chapter *before* it is discussed in class. Pay careful attention to the figures, diagrams, and example problems in each chapter; if you understand these, you are 90% of the way to understanding the material.

HOMEWORK: Any discipline requires practice. Most homework will be assigned and evaluated using a web-based program called WebAssign (webassign.net). You will be required to purchase (\$40.95) "access" online. You will need a credit card for this; you can purchase cash cards that will work as credit cards loaded with a specific amount of money at various locations. Enroll using the correct WebAssign Class Key:

Monday Lab: TBA

Tuesday Lab: TBA

Web Assignments will be announced in lecture and will be clearly displayed upon logging into your WebAssign (WA) account. WA gives you instant feedback on the homework assignments, as it will tell you if your final answer is right or wrong. Additionally, it gives you individualized problems. For most assignments, you will have three opportunities to solve the problem correctly. While we welcome questions about homework, but it is not encouraged to use the email/question features within the Webassign platform, I do not check this very frequently. Instead, email me at my monmouthcollege.edu email addresses or stop by my office if you have question about the homework.

Your homework grade will be based not only on getting the right answer for the problem, but also on showing a legibly worked-out solutions. This criterion is also true of exams and quizzes (no work shown = no credit.) Therefore, you must keep a homework journal in which you work out all the homework problems. This must be a separate notebook from your class notes because we may collect the notebooks from time to time. By keeping a journal like this, you will also be able to review problems before exams and quizzes. The homework journals will be checked periodically.

It is often useful for students to work together to develop an understanding of the material and therefore, we encourage you to establish study partnerships. However, since homework assignments are graded, *final* WA responses need to be a result of your independent work. It is best to treat the homework like you are taking a practice exam. *Keep in mind that you will not have the book or your study partner's help during exams, so make sure that you can independently work problems.*

QUIZZES: Quizzes may be announced or unannounced. These will be given so that I can monitor your progress and see if you can apply the concepts without the use of your book. The lowest quiz score of the semester will be dropped from your grade.

EXAMS: There will be 3 in class exams. The final exam will be held on Wednesday May 13th at 8:00 am. You will not be allowed to take the final exam early, so do not plan to leave for break before the scheduled final exam time.

LABORATORY: Please see lab syllabus and schedule for specifics about the laboratory portion of the course.

HELP OUTSIDE OF CLASS

Supplemental instruction: These problem solving/help sessions will be held in the late afternoons/evenings. These sessions, which are led by a student who has previously taken the class, are not required. However, it is highly recommended that you attend so that you can work on your problem solving skills that are necessary for this class. This session is **not** for doing homework. See the Supplemental Instruction handouts for more information. Mamie Ambrosch, a junior biochemistry major, is your supplemental instruction leader.

Tutoring: Kyle McLaughlin, a junior biochemistry major, is the tutor for all chemistry classes. Tutoring is **TENTATIVELY** from 7-9 on Tuesday and Thursday in CSB377...TBA.

Student Success at Monmouth College:

Student Success & Accessibility Services offers FREE resources to assist Monmouth College students with their academic success. Programs include Supplemental Instruction for some classes, Drop-In and appointment tutoring, and individual Academic Coaching. The office is setup to help all students excel academically, since every student can work toward better grades, practice stronger study skills, and manage their time better.

Accessibility Services:

If you have a disability or had academic accommodations in high school or another college, you may be eligible for academic accommodations at Monmouth College under the Americans with Disabilities Act (ADA). Monmouth College is committed to equal educational access. To discuss any of the services offered, please call or meet with Robert Crawley, Interim Director of Student Success & Accessibility Services. SSAS is located in the new ACE space on the first floor of the Hewes Library, opposite Einstein's Bros Bagels. They can be reached at 309-457-2257 or via email at: ssas@monmouthcollege.edu

ACCOMMODATIONS: If you require accommodations as a result of disability (classroom modifications, adaptive equipment, or alternative testing arrangements) please notify us as soon as possible. *Although a disability may be recorded with the College, I take no action unless requested by the student.* So, for example, if you require extra time for an exam, you must make the request to the instructor after the first exam is announced and at least two days before the exam is given.

ACADEMIC HONESTY:

"Honesty in one's academic work is of the utmost importance for the maintenance and growth of the individual and of our intellectual community. We therefore require all our students to contribute to this community of learners and to make a vigorous commitment to academic honesty."

The above statement was taken from the Scots Guide (<https://ou.monmouthcollege.edu/life/residence-life/scots-guide/default.aspx>). You should be aware that violations of academic honesty could result in punishments up to and including failing the course. Understanding academic honesty is a part of your education and we will discuss it when appropriate. If you have questions concerning academic honesty, please ask.

A SUMMARY OF HOW TO SUCCEED IN THIS CLASS: Learning chemistry takes a lot of practice and constant review of the material you have learned in previous weeks. Therefore, you should expect to spend a significant amount of time outside of class learning the material. We expect you to: 1) take careful notes and review them shortly after the class, 2) do the homework, 3) review the answers to the homework when the solutions are posted, 4) review your exams and quizzes, and 5) get help if you don't understand something.