

# GENERAL CHEMISTRY (CHEM 140), SPRING 2018

**INSTRUCTOR: Bradley E. Sturgeon, PhD, CSB 358, 309-457-2368, besturgeon@monm.edu**  
**TEXT:** *Chemistry: The Central Science. 11<sup>th</sup> Ed.; Brown, LeMay, Bursten & Murphy. 2009, Pearson Education Inc. (ISBN 0-13-600617-5)*

**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 (keeping track of elements during a chemical reaction), thermochemistry (heat generating reactions), chemical bonding, gas behavior, and kinetics (the rate of chemical reactions). The textbook uses practical applications and examples to illustrate these principles. Chemistry is an exciting field with many job opportunities. It is my 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.

**CLASS TIMES:** MWF 8:00-8:50 am in CSB 378.  
*Please be on time.*

**PREREQUISITES and MATERIALS:** A good attitude, the course textbook, a calculator (no cell phones allowed), a homework journal (\$0.50), a carbon-copy lab notebook, and safety glasses.

**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. Lecture is a conversation between you and the instructor. If you are not present, we have no choice but to have the conversation in your absence. This of course affects our level of communication and ultimately your grade. ***We fully expect that you attend all lectures; attendance will be noted.*** Please let me know if you will be absent. Although most course content is contained in the text, not all sections are equally emphasized. All graded work will be based on material discussed in class or an extension thereof; for this reason it is to your advantage to attend. Also keep in mind that to make up for missing a 50 minute lecture will take you longer than 50 minutes, therefore missing lecture is a really bad “time management” practice.

**OFFICE HOURS / TUTORING / SUPPLEMENTAL INSTRUCTION:** My office hours are 9-10 am MWF in CSB 358. If I am not in our office, then I may be in the research labs. You may also make an appointment at other times convenient for all. In addition, feel free to drop by and if we are not busy, we will be happy to talk. Review sessions, upon request, may be conducted prior to exams. A General Chemistry tutor is available; times will be announced in class. This course will also be taking part in the “supplemental instruction” program. Details will be discussed in class.

**HOMEWORK:** Any discipline requires practice. Homework will be assigned and evaluated using a web-based program called WebAssign (webassign.net). You will be required to purchase (\$29.95) “access” online. WebAssignments will be announced in lecture and will be clearly displayed upon logging in your WebAssign account. Log on information will be discussed in class/lab. In

addition to entering answers directly online within WebAssign, you will be required to keep a WebAssign homework journal (a \$0.50 composition notebook). This journal will document all of your work leading to your response entered into the online system. WebAssign journals will be evaluated in lab. Since homework assignments are graded, *final* WebAssign responses need to be a result of your independent work. *Keep in mind that you will not have your study partner’s help during exams, so make sure that you can independently work problems.*

**WebAssign class key: monm 2035 0381**

**LABORATORY:** All students are assigned to one of two lab sections. You will be required to use a carbon-copy lab notebook (used lab notebooks are acceptable) and safety glasses; these items will be for sale in lab. Lab information will be given on the first day of lab starting on Mon, Jan 15<sup>th</sup>. If you are repeating the course, please see the instructor to determine whether you need to also repeat the lab portion.

**GRADES:** Keep in mind that the *instructor does not determine your grade, but rather assigns your grade based on numerical data.* Your semester grade will be calculated based on homework, quizzes, and participation (15%), laboratory (25%), three in-class exams (40%), and a final exam (20%) given on Monday, May 7 at 6:30 pm. If you are taking an evening T/Th class there may be a conflict; see me. **There are no make up exams given unless absence is due to school sanctioned activity or verifiable illness.**

The letter grades will be **assigned** as follows:

AVERAGE %	GRADE
93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
60-69	D
<60	F

**HOURS PER WEEK EXPECTATION:** There is an expectation that you will complete a significant amount of work outside of the classroom and laboratory. Understand that the hours listed below are weekly averages. Some weeks will demand more than others; for example, in weeks that you have an exam you will need to spend more time. Additionally, some students will need more time than others to master the material.

In class, lecture = 2.5 hours; In lab activities = 3; Outside of class, reading/homework = 3 hours; Outside of class, studying = 3 hours; Outside of class, lab prep = 0.5 hour; Outside of class, lab reporting sheets = 1 hours. Total time = 13 hours/week.

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### **Policies on Academic Dishonesty**

From the Monmouth College Academic Honesty Policy: “We view academic dishonesty as a threat to the integrity and intellectual mission of our institution. Any breach of the academic honesty policy – either intentionally or unintentionally - will be taken seriously and may result not only in failure in the course, but in suspension or expulsion from the college. It is each student’s responsibility to read, understand and comply with the general academic honesty policy at Monmouth College, as defined here in the Scots Guide, and to the specific guidelines for each course, as elaborated on the professor’s syllabus.”

“The following areas are examples of violations of the academic honesty policy:

1. Cheating on tests, labs, etc;
2. Plagiarism, i.e., using the words, ideas, writing, or work of another without giving appropriate credit;
3. Improper collaboration between students, i.e., not doing one’s own work on outside assignments specified as group projects by the instructor;
4. Submitting work previously submitted in another course, without previous authorization by the instructor.”

“Please note that this list is not intended to be exhaustive.”

The complete Monmouth College Academic Honesty Policy can be found on the College web page by clicking on “Student Life” then on “Scot’s Guide” in the navigation bar to the left, then “Academic Regulations” in the navigation bar at the left. Or you can visit the web page directly by typing in this URL: <http://department.monm.edu/stuserv/student-handbook/academic.htm>

*In this course, any violation of the academic honesty policy will have varying consequences depending on the severity of the infraction as judged by the instructor. Minimally, a violation will result in an “F” or 0 points on the assignment in question. Additionally, the student’s course grade may be lowered by one letter grade. In severe cases, the student will be assigned a course grade of “F” and dismissed from the class. All cases of academic dishonesty will be reported to the Associate Dean who may decide to recommend further action to the Admissions and Academic Status Committee, including suspension or dismissal. It is assumed that students will educate themselves regarding what is considered to be academic dishonesty, so excuses or claims of ignorance will not mitigate the consequences of any violations*

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### **Teaching & Learning Center:**

The Teaching and Learning Center (TLC) offers FREE resources to assist Monmouth College students with their academic success. Programs include Supplemental Instruction for difficult classes, drop-in and appointment tutoring, and individual academic coaching. The TLC is here to help students excel academically. TLC services are not just for struggling students, but can assist all students to get better grades, practice stronger study skills, and manage time.

Visit Kam Williams, Director of Academic Support Programs and Student Disability Services at the TLC on 2<sup>nd</sup> floor Poling Hall from 8am-4:30pm or online at <http://ou.monmouthcollege.edu/academics/teaching-learning-center/>

We can also be reached at: [tlc@monmouthcollege.edu](mailto:tlc@monmouthcollege.edu) or 309-457-2257

Like the TLC on Facebook: [https://www.facebook.com/pages/Monmouth-College-Teaching-and-Learning-Center/203117166403210?ref=aymt\\_homepage\\_panel](https://www.facebook.com/pages/Monmouth-College-Teaching-and-Learning-Center/203117166403210?ref=aymt_homepage_panel)

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### **Disability Support 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.

Students with disabilities can apply for accommodations at the TLC. For more information, call 309-457-2257 or connect online at <http://ou.monmouthcollege.edu/life/disability-services/default.aspx>

## General Chemistry (Chem 140), Sturgeon, Spring 2018

**Tentative Schedule:** Topics may be added or deleted depending on learning rates and student input. Dates for exams are tentative and subject to change.

<b>Week # (days of lecture)</b>	<b>Topic</b>	<b>Chapter</b>
1) Jan 17, 19 (2 days)	Introduction to course Significant figures	Chapter 1
2) Jan 22, 24, 26 (3 days)	Dimensional Analysis Atomic theory	Chapter 1 Chapter 2
3) Jan 29, 31, and Feb 2 (3 days)	Nomenclature, Ionic and Covalent Compounds	Chapter 2
4) Feb 5, 7, 9 (3 days)	Stoichiometry	Chapter 3
5) Feb 12, 14, 16 (3 days)	Stoichiometry	Chapter 3
6) Feb 19, 21, 23 (3 days)	<b>Wednesday, Exam I (Feb 21)</b>	<b>Ch 1-3</b>
7) Feb 26, 28 and March 2 (2 days – <i>No class Mar 2</i> )	Aqueous solutions, Concentration, and Chemical reactions	Chapter 4
<b>8) Spring Break March 5-9</b>	No class	
9) March 12, 14, 16 (3 days)	Chemical reactions	Chapter 4
10) March 19, 21, 23 (3 days)	Thermochemistry	Chapter 5
11) March 26, 28, 30 (2 days – <i>No class 30th</i> )	Thermochemistry	Chapter 5
12) Ap 2, 4, 6 (2 day – <i>No class 2nd</i> )	<b>Friday, Exam II (April 6)</b>	<b>Ch 4/5</b>
13) Ap 9, 11, 13 (3 days)	Electronic structure	Chapter 6
14) Ap 16, 18, 20 (3 days)	Periodic properties	Chapter 7/8
15) Ap 23, 25, 27 (3 day)	Bonding and Lewis Structures	Chapter 8/9
16) Ap 30, May 2	<b>Monday, Exam III (April 30)</b>	Ch 6/7/8/9
<b>17) May 7<sup>th</sup></b>	<b>Monday, FINAL EXAM 6:30-9:30 pm</b>	<b>Comprehensive</b>