

SYLLABUS

General Chemistry I (CHEM 101)

Fall, 2019

1. Course Objectives

The objectives of General Chemistry I (Chemistry 101) are to provide students with a fundamental understanding of

- the organization, properties, representation, and particulate nature of matter, with special emphasis given to the study of the gaseous state.
- the classification, representation, driving forces, and accompanying heat exchange of chemical changes.
- the theories of atomic and molecular structure as well as intermolecular and intramolecular bonding.
- the Laws of Constant Composition and Conservation of Mass and the practical application of these Laws.
- the general nature, properties, and various expressions of concentration of solutions.

2. Textbook and Course Resources

Chemistry, 7th edition, by John McMurry, Robert Fay, and Jill Robinson.

moodle.presby.edu, PC's course management site (probably will post answer keys to exams, quizzes, lecture notes & discussion for asking questions about the class)

3. Grading System

<u>Class Grade</u>	<u>Class Average</u>
A	92 to 100
A-	91 to 90
B+	89 to 87
B	86 to 82
B-	81 to 80
C+	79 to 77
C	76 to 72
C-	71 to 70
D+	69 to 67
D	66 to 60
F	Below 60

<u>Factors affecting class average</u>	<u>Factor Weight</u>
Quizzes/MasteringChemistry	10%
Major Tests (4)	65%
Examination	25%

4. Lecture Schedule

<u>Topics (in order of development)</u>	<u>Textbook Chapter</u>
Introductory Concepts and Measurement	1
The Fundamental Particles of Matter	2
Quantitative Mass Relationships	3
Reactions in Aqueous Solution	4
Electronic Structure and the Periodicity of the Elements	5
Ionic Bonding	6
Covalent Bonding	7
Molecular Structure and Intermolecular Forces	8
The Gaseous State of Matter	10
Thermochemistry	9
The Liquid and Solid States of Matter	11

5. Test dates

"Hour" Tests are given in class during the scheduled class time. The Final Exam is given in the classroom during the Final Exam Period time slot. There are no exemptions from the Final Exam. [M: Monday, T: Tuesday, W: Wednesday, R: Thursday, F: Friday, S: Saturday]

<u>Tests/ Exams</u>	<u>Period A (Powell)</u>	<u>Period B (Powell)</u>	<u>Period C (Gearheart)</u>	<u>Period D (Hahn)</u>	<u>Period F (Hahn)</u>	<u>Period G (Hahn)</u>
Test 1	F, 9/20	R, 9/19	F, 9/20	W, 9/18	W, 9/18	W, 9/18
Test 2	F, 10/11	R, 10/10	F, 10/11	W, 10/9	W, 10/9	W, 10/9
Test 3	F, 11/8	R, 11/7	F, 11/8	W, 11/6	W, 11/6	W, 11/6
Test 4	F, 12/6	R, 12/5	F, 12/6	W, 12/4	W, 12/4	W, 12/4
Final Exam	R, 12/12 (8:30 AM)	S, 12/14 (1:30 PM)	M, 12/16 (8:30 AM)	T, 12/17 (1:30 PM)	R, 12/12 (5:30 PM)	T, 12/17 (8:30 AM)

6. Other Announcements

- A copy of the PC Chemistry Department's class **ATTENDANCE POLICY** is located in the last page of this syllabus section. All students are expected to read, understand, and comply with the policy.
- Students are required to procure and use electronic calculators for Chemistry 101. Power for calculators is each student's responsibility and **will not be provided** by the P.C. Chemistry Department.
- The four, in-class tests will each consist of 15 multiple choice-type questions (4 pts. apiece) and 5 short answer-type questions (8 pts. apiece). Students will be allowed to bring in one 3"x5" index card (front and back), containing whatever information they wish, for each test. (note periodic table provided)

d. The Department of Chemistry upholds the college's Honor Code as described in the PC *Blue Book* and the Student Life Regulations and Policies as described in the *Knapsack*. Chemistry students are expected to read, understand, and abide by these documents.

e. As a courtesy to the instructor and other students in the class, **PLEASE TURN OFF all cell phones** before the beginning of class.

f. The **Final Exam** for General Chemistry I (CHEM 101) will be **cumulative** for the entire semester.

g. A list of chapter sections **not covered** in the course is attached to this syllabus (Section 7).

h. Students with **disabilities**: If you are seeking academic accommodations under the Americans with Disabilities Act, you must **register** with the **Academic Success Office**, located on 5th Avenue (beside Campus Police). To receive these accommodations, please obtain the proper Accommodations Approval Form from that office, and then meet with me at the beginning of the semester to discuss how we may deliver what is indicated on that form. Disability Services information is located at this link: <http://bit.ly/PCdisabilityservices>

7. Chemistry 101 Coverage

<u>Chapter</u>	<u>Omission(s)</u>	<u>Memorization</u>
1	Sections 1.9 and 1.10 (these topics are covered in Chemistry 101L)	Tables 1.1, 1.2 (selected entries only) and 1.3; Figure 1.6
2		Periodic Table (selected symbols & names only); Tables 2.5 and 2.6
3		
4	4.14	Table 4.2; four rules on pages 131 -132
5		s, p, and d orbital contour shapes and directions
6		
7	7.7, 7.14, 7.15	
8	8.9	Table 8.1
9		
10	10.8 - 10.11	
11	C-C Equ. & Bragg Equ.	

CHEMISTRY DEPARTMENT ABSENCE POLICY

OFFICIAL RECORD OF ATTENDANCE: Each course instructors' attendance record will be the official record of attendance for all enrolled students.

LIMITATION OF TOTAL (EXCUSED AND UNEXCUSED) ABSENCES: Any student who accrues more than 10 total absences from lecture meetings in any course taken during one semester will be automatically dropped from said course and will be assigned a grade of "F"; students will also have a grade of F assigned for any corequisite of the said course that is being taken concurrently. [Summer Terms: Any student who accrues more than 3 total absences from lecture meetings in General Chemistry 101 or 102 during summer terms will result in a grade of "F" in the course.]

ABSENCES FROM LABORATORY CLASSES: All students, regardless of their class standing, have a maximum of one (1) unexcused absence from a lab; however, the work missed due to an unexcused absence will not be allowed to be made up and will result in a grade of "0" for the missed work. Any student exceeding one unexcused absence from lab will be dropped from the laboratory course with a grade of "F"; students will also have a grade of F assigned for any corequisite of the said course that is being taken concurrently.

AUTHORITY FOR EXCUSING ABSENCES: As outlined in the *Knapsack*, the College Absence Committee is the only body empowered to officially excuse absences. Applications for excuses may be obtained in the Academic Affairs Office located in the Smith Administration Building.

UNEXCUSED ABSENCES: Freshmen, first semester transfers and students on academic probation are referred to the attendance requirements outlined in the *Knapsack*, which states that these students are restricted to a maximum of four (4) unexcused absences.

All students enrolled in 100 level chemistry courses are limited to four (4) unexcused absences. Any student exceeding his/her maximum allotment of absences will be dropped from the course with a grade of "F".

An instructor may specify, in writing, the maximum number of unexcused absences for any student if, in the judgment of the instructor, the attendance practices of the student are adversely affecting his or her performance in the course.

ABSENCES FROM EXAMINATIONS (CLASS AND LAB): All students are required to take announced quizzes, tests, and examinations at the scheduled time. For excused absences, a student has one week from the date of return to class to make up missed quizzes, tests, or exams; after that time, a grade of "0" will be assigned for the missed work. An unexcused absence from any of the announced evaluations will result in a grade of "0".

For **unanticipated** excused absences (i.e., illness, family emergency, etc.), it is the responsibility of the student to make arrangements with the laboratory instructor for completing missed work. The student has **one week from the date of return to class to make up the work;** after that time, a grade of **"0" will be assigned for the missed work.**

For **anticipated**, excused absences (i.e., sports activities, field trips, etc.), it is the responsibility of the student to schedule, **in advance**, his or her make up of the missed laboratory assignment in one of the other laboratory sections when that particular exercise is being done. Failure to make proper arrangement will result in a grade of "0" for that assignment.

Because of the safety considerations that are covered in laboratory lectures before actual lab work, it is **imperative** (for the safety of the student, as well as his/her lab-mates) that the **student not be late for the start of lab.** Any student not present for the start of the lab lecture will be considered absent from the lab that is scheduled for that particular day.

MAKING UP MISSED WORK: For excused absences, a student has one week from the date of returning to classes to make up assigned work; after that time, a grade of "0" will be assigned for the missed work. The instructor will not be responsible for supplying any information or help on material covered during a student's unexcused absence.

Revised January 6, 2014

Notes Specific to Dr. Hahn's Sections of General Chemistry I Lecture :

Professor: Dr. Juliet Hahn

office: Richardson 316

If I am not in my office, I will leave a note where I can be found & you may follow me.

phone: **office: 864-833-8420** cell 803-834-0827 (only for emergency) (new office phone #)

email: imhahn@presby.edu (easiest way to get a hold of me)

Dr. Hahn's Sections

CHEM 101 D MW 10 to 10:50 am, R 9 to 9:50 am Richardson 315 (note: **not MWF** but MWR & an hour earlier)

CHEM 101 F MWF 11 to 11:50 am Richardson 315

CHEM 101 G MWF 12 to 12:50 pm Richardson 315

Office hours: WR 2 pm to 4 pm, T 9 am to 10:50 am, R 9:50 – 10:50 am (other times by appointment)
(changed office hours)

For the Lecture you will need access to: (a) **Textbook**, Chemistry (7th edition) by McMurry, Fay, Robinson (ISBN 978-0-321-94317-0, publisher Pearson) You will also need (b) a **scientific calculator**: To perform calculations in this course, you will need an inexpensive "scientific calculator". It does not need to be elaborate but should be able to express numbers in **scientific notation** (e.g. 6.02×10^{23}) and must have **log (and ln)** functions. You can buy such a calculator for around \$5 to \$10.00 at the local discount store.

You will be able to use your calculator on all exams. You will **not** be allowed to use a cell phone as a calculator on quizzes & major test and final exam.

Chemistry 101 is the first semester of a two semester sequence of General Chemistry lecture. We will cover about half the chapters in the text this semester at the rate of **about a chapter a week**.

Students in my sections of the General Chemistry I Lecture may attend any of my 3 sections on any given day. (provided there is room for you to come to the other section) I will be keeping a **hard copy attendance sheet** which will have all my sections students listed. **(Please note the departmental attendance policy which states that a student who misses more than 10 days of class may be dropped from the class with an F. Students who miss lots of classes usually earns an F on the class even without being dropped from the class.)** On exam/quiz days, email **notify me & confirm at least a day** in advance if you want to take the exam/quiz in a **different section** of the General Chemistry I lecture. I may otherwise run out of exams/quizzes and if you try to take the exam/quiz in the wrong section. I may not allow you to take the exam/quiz if you are from a different section and you did not notify me in advance. If I do not run out of exams/quizzes, I will probably let you take the exam/quiz in the wrong section even without prior notification. (i.e. It is probably **not** a good idea for you to try to take the exam in the wrong

My sections

section around the **Thanksgiving holiday** without prior notification to me because everyone else may have the same idea. I may run out of exams/quizzes and **you may end up with a zero on the exam.**)

Grades are based on the following:

<u>Factors affecting class average</u>	<u>Factor Weight</u>
Quizzes & HW in class	10%
Major Tests (4)	65%
Final Examination	25%

Quiz & HW grade (10% of grade): The 10% of grade will be made up of 100 pts total. For the 100 pts total each quiz will be worth 20 pts x 4 = 80 pts + homework in class (total worth 20 pts) **Quiz and HW could be the 10% that separates an A from a B or a C from a D.**

Quizzes will be in the same format as a major test but shorter in length (probably **one** or at **most 2 pages**). Quizzes will be like a traditional test so not open book, not open notebook, not open neighbor with no assistance from Dr. Hahn. **(quiz – last 15 minutes of class)**

HW (Homework In class) grade will be in the same format as a quiz but consist of 5 to 10 minutes of in class work on a problem given in class in the last 5 to 10 minutes of class. HW will be open book, open notes, open neighbor with Dr. Hahn's help. **10% of the lowest HW grades will be dropped. (including zeros for missed homework in class).** Typically my HW grade is very high because of the format of the HW. **If you miss a HW because you were not in class for an unexcused absence, you will earn a zero on the HW missed.** HW IN CLASS must be completed IN CLASS. (There are 42 lecture days this semester. 10% of 42 days is 4 days. If you have **no more than 4 unexcused absences, you will have NO ZERO HW** due to absence. If you miss a **HW day with an excused absence**, it will not count as zero and you will just get an **average of your other HW grades** plugged into the missed day HW.

If you **miss ONE Quiz for any reason**, one and only one quiz grade **will be replaced by the HW** (homework in class) average grade. If you **TAKE ALL QUIZZES**, your **lowest quiz grade will be replaced by the homework in class grade.** (You may have a 3" x 5" index card for the quiz.) Since I need to return and cover the quiz before the exam, if you **miss a quiz and you want to make up the quiz**, it will have to be **taken after the corresponding exam that comes after the quiz and will be a totally different quiz than the quiz that everyone else took.**

If you have **one missed major test** (one of 4 tests) for any reason, notify me ASAP (prior to missing test if you know ahead of time) and **within one week (7 calendar days)** of returning to college. I will give you a **make up test** (different from the test that everyone else took) at a mutually agreed upon time. **After a week of return**, for an **excused absence**, I will average and plug in a grade (from **average of other tests**) or for an **unexcused absence**, you will earn a **zero** on the missed test.

There will be 4 quizzes which will be given in the last 15 minutes of class.

Quiz Dates: {usually 2 days before exams so (a) take quiz (b) get back graded quiz in the next class period, ask questions and make sure everyone understands quiz material (c) take exam at next class period}

<u>Period D Test Dates</u> <i>(Hahn)</i>	<u>Period F Test Dates</u> <i>(Hahn)</i>	<u>Period G Test Dates</u> <i>(Hahn)</i>	<u>Tests/</u> <u>Exams</u>
W, 9/18	W, 9/18	W, 9/18	Test 1
W, 10/9	W, 10/9	W, 10/9	Test 2
W, 11/6	W, 11/6	W, 11/6	Test 3
W, 12/4	W, 12/4	W, 12/4	Test 4
T, 12/17 (Final) (1:30 PM)	R, 12/12 (Final) (5:30 PM)	T, 12/17 (Final) (8:30 AM)	Final Exam

<u>Period D Quiz Dates</u> <i>(Hahn)</i>	<u>Period F Quiz Dates</u> <i>(Hahn)</i>	<u>Period G Quiz Dates</u> <i>(Hahn)</i>	Quiz Dates
R, 9/12	F, 9/13	F, 9/13	Quiz 1
R, 10/3	F, 10/4	F, 10/4	Quiz 2
R, 10/31	F, 11/1	F, 11/1	Quiz 3
M, 11/25	M, 11/25	M, 11/25	Quiz 4

When you get back your graded quizzes and exam you will also get an answer key with a list of points for common mistakes (may post online). Check your graded exam/quiz against the answer sheet. **(Help me by checking for human error.** You will get to keep your exams, quizzes & HW to study so that you learn from your mistakes. You will get partial credit for short answer questions.

If there are any mistakes on the graded exams any requests for regrades **must** be made during the class in which the exam, quiz or HW is returned in writing. Once you leave the class, any requests for regrades will **not** be honored.

Excused Absence vs Unexcused Absence:

Excused Absence: Examples of Excused Absences are: medical grounds, death in the immediate family, documented weather related transportation problems and university business. (Official PC sports team excuses and university wide emailed excuses are of course acceptable excused absences.)

You must have hardcopy documentation such as a doctor's signed note on letterhead, newspaper article for funeral listing your name, funeral program obtained at the service or a letter from a professor or coach stating that you worked on behalf of the university on the given date. Examples of working on behalf of the university could be that you were a part of an official university sports team or that you represented the University at a conference.

Please provide me a hard copy (college wide official emailed excuses are acceptable documentation & need no additional documentation) of your documentation for my files ASAP (before missing the work or at the very least within 7 calendar days of return to college). If you are going to make up the missed Test, within 7 calendar days of return to college, you do NOT need to have any excuse or documentation.

Unexcused Absence: Examples that are not valid excuses include: personal problems, oversleeping, going away for the weekend, etc. [In general excuses for absences for missed exams will be much more rigorous than acceptable excuses for missing the HW (homework in class)] In any case, it is always in your best interest to tell me your excuse because it is possible that I may accept your excuse.

Chemistry is not some far away, antiseptic, horrible, technological monstrosity of the 21st century and chemicals are not some maiming, toxic substance from which we all have to keep a distance. Modern society would not be possible without chemistry. Chemistry gives us all pharmaceuticals, all synthetic materials (polyester, nylon, plastics, teflon, styrofoam, perfumes, rubber, nutrasweet), batteries, the ink in your pen, liquid crystals in your LCD watches & in your flat panel TVs. Chemicals also makes up the bodies of all living organisms. Everything that you eat are chemicals. Chemicals are everywhere!

Chemistry is also the required general education classes for high paying jobs such as: pharmacist, medical doctor, physician's assistant, engineer, research scientist, nurse

Just keep in mind that no matter how smart you are, you will not do well on this course without a lot of hard work. The grade that you earn in this class will be directly related to how much time you spend preparing for the class.

The biggest secret to doing well in this course is to keep up with the lecture material. The biggest mistakes that students make which results in a bad grade in the course are: **1) not attending the lecture** **2) not keeping up with the lecture material and attempting to cram the night before every exam** **3) thinking that just understanding the lecture material means that you will do well on the course – you have to actually work at least the problems on the quiz** immediately prior to the exam, the example worked problems from the lecture and the HW problems. When I say you have to work the problem, I mean that you have to do the problems including the final plugging in of the numbers into the calculator to obtain the final correct answer. **Just looking at the worked problem and sort of understanding it does not count as having done the problem.** If you make one of these three common mistakes, you will

not learn anything. (You will also get a bad grade on this course.) General Chemistry is going to be a lot of work. **(If General Chemistry is not a lot of work, then you may be doing something wrong and your grades may reflect this.)**

One final point, my objective is to teach General Chemistry to everyone in this class. I want you ALL to do well because you are my students. If you have any difficulties, please come to see me before your difficulties cause irreparable damage. I may be able to advise you on how to best study for this class so that you spend your time for the best effect. Do not just stop trying without coming to see me first.

Important Dates & Holidays

8/28 Wednesday	Regular Class Schedule Begins
9/2 Monday Labor Day Holiday	NOT A HOLIDAY, classes held
9/3 Tuesday	last day for late registration or drop/add
10/14 Monday & 10/15 Tuesday	Fall Break (no classes)
10/18 Friday (9 am)	midterm grades due
11/15 Friday	last day to drop class with a grade of W
11/27 W to 11/29 F	Thanksgiving Holiday (no classes)
12/10 Tuesday	Last Day of Classes
12/11 Wednesday	Reading Day (no classes)
12/12 Thursday to 12/17 Tuesday	Final Exams
12/17 Tuesday	Residential Facilities Close for All Students
12/19 Thursday	Final Grades Due at 9 am
1/5/2020 Sunday	Residential Facilities Open for All Students Spring 2020
1/6/2020 Monday	Regular Class Schedule Begins

Syllabus Agreement Form, Information Sheet & Permission to Return Exams Form

I **have read and understand the policies stated in the syllabus** for Dr. Hahn's **CHEM 101 Lecture** class for the Fall semester of 2019. All questions have been answered to my satisfaction. By signing this sheet I agree to abide by the policies stated therein.

Your signature _____ **CHEM 101 Lecture Fall 2019**

Print your name: _____ Date submitted: _____

I am in the [(**MW 10 am, R 9am**) (MWF 11 am) (MWF 12 noon)] (**circle one**) section

***** Information Sheet (note: **your official PC emails will be used for PC official communications**)

contact phone # _____ contact email address _____

major _____ year (please circle one) fresh, sophomore, junior, senior, other

if other please explain _____ last chemistry course taken (course name)

when (year, semester) _____ where (here, other) _____ cumulative GPA _____

grade received on last chemistry course _____

other science courses taking currently (give course name) _____

Are you doing research? (yes, no) If so with whom? _____

Why are you taking this class? _____

hobbies: _____

Feel free to tell me anything else you would like me to know about you:

***** **Permission to Return Exams (exams/quizzes only in my presence)**

I _____ (sign name) [**(do)** or (do not)] (circle

one) give Dr. Hahn permission to return my actual exam/quizzes/HW in a self serve fashion in folders.