



GENERAL CHEMISTRY I

CH 221 Fall 2017

10:00 - 10:50 am, TWHF
Rm. 150 COL
CRN 11359
Dr. Deborah Exton

11:00 - 11:50 am, TWHF
Rm. 150 COL
CRN 11360
Dr. Tom Greenbowe



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Tue 12:00 - 1:00 pm, Rm. 171 Onyx
Wed 2:00 - 3:00 pm, Rm. 107 KLA



Tom Greenbowe
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Office hours:
Tue 1:00 - 2:00 pm, Rm. B011 Science
Library
Wed 1:00 - 2:00 pm, Rm. B011
Science Library

ABOUT THIS COURSE

This is the first term of the three-term General Chemistry sequence. If you are in this course, it is probably because you have an interest in the biological or physical sciences. Most students in General Chemistry are not chemistry majors; in fact, most have other majors, such as biology, biochemistry and human physiology. Chemistry is foundational for the other sciences and as such, is required for most science majors at the University of Oregon.

As a student in General Chemistry, you will be required to learn a new language - the language of chemistry. As you learn to think like a chemist, you will study phenomena in terms of macroscopic, sub-microscopic and symbolic interpretations. Success in this course requires not only an understanding of the basic vocabulary, facts and concepts, but also the ability to critically analyze relationships between phenomena and to apply knowledge to novel situations.

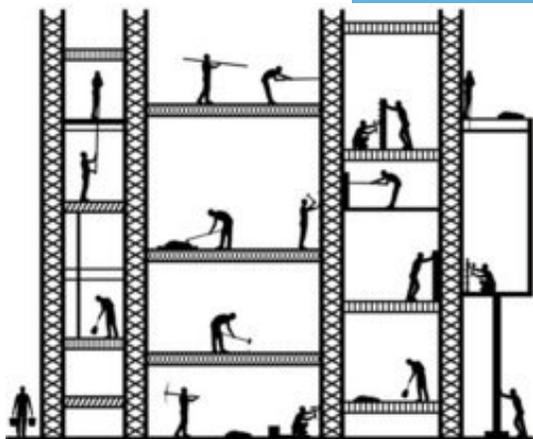
BACKGROUND KNOWLEDGE

High school chemistry is a prerequisite and Math 111 is a co/prerequisite for this class. Concurrent registration in the laboratory course, CH 227, is recommended but not required.

Looking into the future: Math 112 is a pre-requisite for CH 223. **You will not be allowed to take CH 223 spring term if you have not completed Math 112 or the equivalent by that time.**

Access and Accommodations: The University of Oregon is working to create inclusive learning environments. Please notify us if there are aspects of the instruction or design of this course that result in disability related barriers to your participation. You are also encouraged to contact the Accessible Education Center in 164 Oregon Hall at 541-346-1155 or uoaec@uoregon.edu.

COURSE STRUCTURE



CH 221 is designed for **active and engaged learning**, which means that it may be different than some of your other university classes. In addition to lectures, there will be classroom activities, group work and out-of-class assignments, all of which are designed to build your basic knowledge and scaffold that knowledge to develop the critical thinking and problem solving skills that will lead to your success in this and future science courses. In-class small group exercises will allow you to work collaboratively with your classmates to solve problems, receive peer feedback and develop deeper understanding of the lecture material. For this to work, you must **take responsibility for your own learning and participate as an active learner.**



COURSE OBJECTIVES

1. Develop problem-solving and critical thinking skills that are important for all scientists.
2. Develop an understanding of and an appreciation for the connections of chemistry with other disciplines, with everyday experiences, and for how science can help improve the environment.
3. Develop content knowledge and skills necessary to progress to more advanced science classes.
4. Build confidence in doing and learning chemistry.

COURSE TAs:

Christian Gervasi (10:00 am section)
cgervasi@uoregon.edu
Office Hours:

Nicole Wales (11:00 am section)
nwales@uoregon.edu
Office Hours:

MORE SPECIFICALLY...

General Chemistry is a full-year sequence. This term, chapters 1 - 4 and 6 - 8.3 in the Silberberg/Amateis text will be covered. It would be a mistake to assume that all of the material covered in the lectures appears in the text, or vice-versa. Therefore, it is important that you study both the text and the lecture notes. Exam questions will expect you to assimilate concepts and examples from both the textbook and the lecture and will not necessarily be the same as examples that you have seen before.

During this term you will learn to

- speak the language of chemistry,
- represent the particulate nature of matter,
- predict transformations of matter as atoms and molecules rearrange to form new substances,
- describe the role of energy in chemical and physical processes,
- “get inside the atom” to describe matter on a quantum mechanical level.

The course is Science group satisfying. *Group satisfying courses in the sciences should introduce students to the foundations of one or more scientific disciplines, or should provide an introduction to fundamental methods (such as mathematics) that are widely used in scientific disciplines. Courses should introduce students to the process of scientific reasoning. (UO Senate legislation)*

REQUIRED MATERIALS

- Silberberg, M.S and Amateis, P.; Chemistry 8/e Custom, ISBN 9781260364781, McGraw-Hill Publishing.*
- ALEKS, included at no extra charge with the textbook package when purchased at the UO Duckstore
- Sapling on-line homework system
- Non-graphing scientific calculator (see departmental calculator policy)
- i>clicker 2 - available in the UO bookstore

*An all digital version of the text is available when an ALEKS access code is purchased. See the course materials document posted on Canvas for further information.

Get these

EXPECTATIONS

Most students don't come to this class with a full recollection of their high school chemistry class so **don't panic** when you don't remember something you think you should know. However, we expect you to **be willing** to do the necessary work to retrieve your prior knowledge and learn new things. **Attend** and **be prepared** for class - that means read the material before class. Complete assignments, participate in classroom activities, and ask questions when you need help. **Be kind to each other** in the classroom. **Communicate with us** if you are struggling.

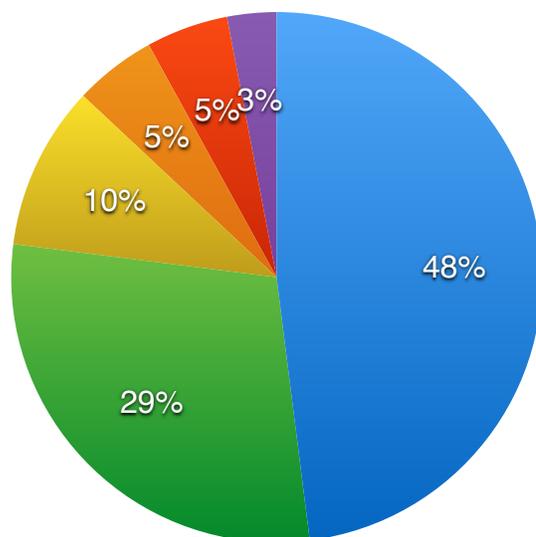
In return, you should expect that we will **guide** your learning, **help you** develop a framework for your new knowledge, **answer** your questions and **show you** how to apply what you have learned to new topics.

HOW YOU WILL BE GRADED

THE GRADING SCALE

90% = A, 78% = B, 62% = C, 50% = D, <50% = F. These cut-offs may be shifted downward slightly at the end of the term, depending on course averages. That is, for example, if events warrant, we might go a little below 78% for a "B", but never above as the lower cutoff.

If you have chosen the P/N option, you must earn the equivalent of a C- to receive a P (pass) in this course. A course grade of incomplete (I) will be considered only for individual cases with cause. An incomplete grade is not meant to be a substitute for an undesirable regular letter grade. *An incomplete may be issued when the quality of work is satisfactory, but some minor yet essential requirement has not been completed, for reasons acceptable to the instructor. (http://registrar.uoregon.edu/incomplete_policy)*



- Midterm Exams
- Sapling HW
- ALEKS
- Final Exam
- Participation
- ABKR assignment

MARK YOUR
CALENDAR!

IMPORTANT DATES

Thu. Oct. 19, 7:00 pm, **Exam #1**

Thu. Nov. 9, 7:00 pm, **Exam #2**

Tue. Dec. 5, 5:00 pm, **Final Exam**



ALEKS OBJECTIVES

Chemistry is a complex and challenging subject. The UO General Chemistry courses have incorporated the ALEKS online assessment and tutoring service into our instruction, based on solid data that show this service can improve mastery and retention, particularly for students who would otherwise have difficulty passing. You will have regular required assignments, referred to as "Objectives", using ALEKS. The material presented in these assignments will come before the material is covered in lecture. The purpose of this is to help you learn basic concepts and definitions and prepare you for the upcoming lecture, freeing up time in lecture to focus on the more difficult concepts. You can expect to spend at least several hours a week working on ALEKS, though just how much time has to be spent will vary from student to student and will depend critically on how efficiently you use ALEKS. A separate ALEKS QuickStart guide will be posted on Canvas that will explain how to access ALEKS and how you can get the most from ALEKS with the least time and effort.

ACADEMIC DISHONESTY

Academic dishonesty in any guise, including plagiarism, fabrication, and cheating, will not be tolerated. All work submitted in this course must be your own and produced exclusively for this course. Additional information about plagiarism, including examples, can be found at <http://libweb.uoregon.edu/guides/plagiarism/students/>. Consequences of academic dishonesty range from receipt of a failing grade on the assignment to an F in the course. All violations will be taken seriously and noted on student disciplinary records. For further information, refer to the University Student Conduct Code.

SAPLING HOMEWORK

Weekly homework will be assigned within the Sapling homework system. These assignments are designed to assess your ability to solve higher order problems after having completed reading and ALEKS assignments and attending lecture. Information on purchasing and accessing Sapling will be posted on Canvas. All assignments are due at **11:55 pm** on the date indicated, generally a **Wednesday**. There will be nine Sapling assignments of equal weight.

PARTICIPATION

Participation points will be based on graded clicker questions, quizzes and other assignments submitted to Canvas.

SUMMER ASSIGNMENT

All students are required to complete the Assessment of Background Knowledge and Review (ABKR) assignment. This assignment must be completed by 11:50 pm, Oct. 1, 2017. Successful completion of this assignment is worth 3% of the course grade. A score of 85% or better on the ABKR assignment is necessary to earn this credit.

GENERAL CHEMISTRY POLICIES

Exam policy:

1. No make-up quizzes or exams will be given. In no instance will an exam be given early. Written requests for alternate testing arrangements due to conflicts with authorized and unavoidable university events must be made during the first two weeks of the term. Documentation must be included with all requests.
2. You must bring #2 pencils and an approved calculator to quizzes and exams.
3. Only approved calculators may be used during quizzes and exams. Sharing of calculators is not allowed.
4. A limited number of calculators will be available to check out during the exam on a first-come, first-served basis. A 5% penalty on the exam will be assessed should you choose to check out a calculator.
5. The use of electronic dictionaries is not allowed. Paper dictionaries must not contain ANY extra writing and must be presented to the instructor or head proctor at the beginning of the exam for inspection.
6. UO Student identification cards must be brought to each quiz or exam and may be requested by the instructor or assisting proctor at any time.
7. The "hat rule" will be enforced during all exams. All baseball caps must be removed or turned backwards. All brimmed hats must be removed.
8. All cell phones and other wireless communication devices must be turned OFF and placed under your seat with your backpack and other belongings. Use of a cell phone during an exam for ANY reason will be regarded as a violation of academic dishonesty guidelines.
9. Headphones and unauthorized earpieces must be removed during quizzes and exams.
10. Keep all exam material at your seat – not on the seat next to you. Stow away ALL other personal materials (bags, packs, phones, etc.) under your seat.
11. A Periodic Table, appropriate equations, and physical constants will be provided with each exam.

Calculator policy:

The UO General Chemistry Committee has adopted a policy whereby only certain models of calculators are allowed in quizzes and examinations. This is to provide a level playing field for all students and preclude devices with communications capabilities.

An inexpensive non-programmable scientific calculator without text storage or graphing capabilities (for example: Casio FX-115MSPlus, TI 30X IIS or TI 30X IIB, HP 10S, or Sharp EL-5XX series) should be brought to all quizzes and exams, even if you're not sure if you will use it. Calculators will not be provided. Make sure your calculator is in good working order and that batteries are fresh. The calculator you use should have capabilities for square roots, logarithms, scientific notation operations and a y^x key. Inquiries about the acceptability of calculators must be made in advance of entering the exam room. It is in your best interest to familiarize yourself with your calculator before the exam by using it for homework assignments.

The following types of calculators are NOT approved for use during quizzes and exams:

- graphing calculator
- pocket organizer
- hand-held or laptop computer
- electronic writing pad or pen input device
- calculator that requires an outlet
- calculator that communicates with other calculators
- calculator that makes noises or "talks"
- calculator that accepts a "chemistry card"
- calculator with a QWERTY (typewriter-like) keypad
- cell phone calculator

If it is determined that a student is using a non-approved calculator, the calculator will be confiscated and returned at the end of the exam. The student will be required to complete the examination without a calculator. Following the examination, the instructor may decide to proceed with a charge of cheating.

Clicker Tips and Policies:

Clicker Registration: Clickers must be registered through the link on the CH221 Canvas site. Registrations made through the iClicker web site will not be recorded. Any points earned before your clicker is registered will be awarded retroactively after your clicker is registered.

Clicker questions will be asked during most lectures. Generally, class will begin with two or three quiz questions based on concepts from the reading and previous lectures. These questions will earn 2 points each for a correct response. Questions will also be asked during class to give you a chance to assess your understanding and to provide me with feedback as to the pace and coverage of the material. These questions will generally not be graded. Because most of the clicker points will be based on participation, it is in your best interest to attend class every day and remember your clicker. Each day's points will be converted to a percentage and posted on Canvas. The lowest 4 daily percentage scores will be dropped at the end of the term. You must be present to earn clicker points and no make-ups will be given.

If you forget your clicker, or your battery fails during class, we will give you TWO opportunities to still earn credit. In order to get credit, you must write down your name, UO ID number, date, and your answers to each question. For answers involving calculations, all work must be shown. You must turn this in to before leaving the classroom. Submissions will not be accepted after that time. After two paper submissions, you will not receive credit.

Clickers should be brought to class every day. It is your responsibility to ensure proper clicker operation. Avoid rough treatment to keep the clicker operating properly. In the event that you lose or damage your clicker, you will need to purchase and register another clicker.

Academic conduct rules apply to clicker use. Students found to be involved in incidents of clicker sharing will have their course grade automatically lowered by one full letter grade.

Inclement Weather Policy:

In the event that a class must be cancelled due to inclement weather, an email will be sent to your UO account and an announcement will be made on the CH 221 Canvas web site.

E-mail Policy: The University of Oregon has adopted university email addresses as an official means of communication. It is your responsibility to regularly check your UO email account in order to stay current with course communications.

Email is a very handy method for communicating with people, whether around the world or across campus. In some situations email protocol is not as formal as paper communications. In others, (academics, jobs, etc.) there are some expectations of protocol. When communicating with us (or any faculty member) by email, please adhere to the following guidelines:

- The subject line should indicate the course number and the nature and topic of the email.
- Spell correctly and use appropriate punctuation.
- Always sign your messages with first and last name. Unsigned messages may not receive a response.

You should always refer to your syllabus and/or the Canvas web site for answers to your questions before sending an email inquiry. If you do not receive a timely response it is because the answer is readily available from one of those sources.

Classroom Decorum: The university asks that faculty outline basic expectations for classroom decorum. As a courtesy to other students, please refrain from talking during lectures unless it is part of a class activity. Turn cell phones off or place on silent ring. If you need to talk, either to a classmate or on a cell phone, please excuse yourself quietly with minimum disturbance and go outside to converse. Students using laptop computers and tablets for note taking will be asked to sit in a separate section of the lecture hall to avoid presenting an audible or visual distraction to others. If you have an irresistible need to electronically multitask, browse the web, answer email, update your friends, tweet, text, or..., please leave the room for these activities.