Course Readings/Materials

The following materials are *required* for the course and can be purchased in the UAF bookstore or elsewhere:

1. *Chemistry: An Atoms-Focused Approach* , 3rd edition, Gilbert et al.
   Complete Book - ISBN: 978-0-393-67402-6 (Hardcover), 978-0-393-69744-5 (ebook).

2. Norton Smartwork 5 access for *Chemistry: an atoms-focused approach,* 2nd Ed.

3. Experiments in General Chemistry 105X: A Laboratory Manual (free! Handouts can be printed from Blackboard, updated weekly)

A University of Alaska email address is required for all communication in the class. This also provides access to the Blackboard system for individual scores and grades.

Technology requirements

A University of

General Chemistry I, CHEM F105X

4 Credits

Spring 2021

Course Goals

The primary goal is for you to be able to interpret, explain, and predict the physical and chemical properties of substances based on their atomic and molecular structures. We also want you to understand how chemistry is linked to other disciplines as well as your life. Another goal is to illustrate how chemistry is all around you, in the air you breathe and the food you eat, and how understanding chemistry will help you solve problems in this course and beyond.

The course will also focus on problem-solving. Your goal should be to develop strategies for solving chemical problems. Your approach should be to study and know the facts, and then apply that knowledge to new situations in chemistry.

Another goal is to realize that chemistry is an experimental science. The laboratory should illustrate and reinforce concepts learned in the lecture.

Student Learning Outcomes

are defined for each chapter in the textbook. Please refer to the Blackboard course under Course Content for listing of these Learning Outcomes.

for the Course are:

- Demonstrate a knowledge of basic chemical concepts, such as stoichiometry, states of matter, atomic structure, molecular structure and bonding, thermochemistry, equilibria, and kinetics.
- Demonstrate strength in quantitative chemical problem solving including mathematical skills.
- Predict the physical and chemical properties of substances, including reactions, based on their atomic, molecular and electronic structure.
- Use the periodic table to explain the electronic and nuclear properties of elements.
- Demonstrate competency in basic laboratory skills and the analysis of data.
- Demonstrate how chemistry is linked to other scientific disciplines.
- Place the development of theories and hypotheses of chemistry in a historical context.

	Bonding Theories	
Feb 15 - Feb 21	Reading: Chapter 5 Lecture: Watch Chapter 5 videos. Smartwork Chapter 5 Written Homework 5 Recitation Chapter 5	Smartwork Chapter 4 Written HW4: Due Feb 17

Course Policies

Expectations on Progress In Coursework.

Students are expected to complete all online homework in timely manner. Students are expected to take all quizzes and exams during the scheduled times. If these are not completed on time, the students is expected to provide a *legitimate excuse or explanation to the Professor in writing*, preferably prior the anticipated missed deadline, so that appropriate rearrangements can be made to make up the missed assignment.

Plagiarism and Academic Integrity

Academic dishonesty applies to examinations, assignments, and laboratory reports. Examples include, but are not limited to:

- Presenting as their own the ideas or works of others without proper citation of sources;
- Utilizing devices not authorized by the faculty member;
- Using sources (including but not limited to text, images, computer code, and audio/video files) not

Extended Absence Policy

Extended absences are defined as missed classes or course work by students beyond what is permissible by the instructor's written course policies. Students may need to miss class and/or course work for a variety of reasons, including, but not limited to:

- Official UAF activities such participation in athletic events, conferences, etc.
- Bereavement
- Personal illness or injury
- Serious illness of a friend, family member or loved one
- Military obligations
- Jury service
- Other emergency or obligatory situations

For more information, go to the student handbook or the Center for Students Rights and Responsibilities.

UAF Incomplete Grade Policy:

Your instructor follows the University of Alaska Fairbanks Incomplete Grade Policy:
“The letter "I" (Incomplete) is a temporary grade used to indicate that the student has satisfactorily completed (C-

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