
SYLLABUS FOR CHEM 10: ELEMENTARY CHEMISTRY

Reedley College

Section 50177

Fall 2013

Instructor: Jodi Kawagoe email: jodi.kawagoe@reedleycollege.edu phone: 393-1654 (text only)

Class times: Lecture: MWF 10:00–10:50 am in PHY 82
Lab: F 11:00–1:50 pm in PHY 82

Texts: Zumdahl and DeCoste, *Basic Chemistry*, 7th edition (ISBN 978-0-538-73637-4)

Materials: Safety glasses/goggles & scientific calculator (with exponential notation and logarithms)

Holidays: Monday, September 2; Monday, November 11; Friday, November 29

COURSE DESCRIPTION

This is a one-semester elementary class for students who have never taken high school chemistry. The course will give students a basic background in matter, energy, chemical reactions, measurements, formula writing, nomenclature, chemical calculations, gas laws, bonding, solutions, net ionic equations, acid-base theory, pH, oxidation-reduction reactions and equilibrium. Recommended for applied science and non-science majors or for students preparing to take Chemistry 1A.

COURSE ADVISORIES

English 1A and Mathematics 103

DROP DATE

The drop date is Friday, October 11, 2013. After that date I am required to assign a letter grade that will appear on your transcript. If you plan to drop the class, you should do so yourself. Do not depend on me to drop you because of nonattendance. Students with an F average or a poor attendance record at the drop date should discuss their status with me; I may drop such students.

SUCCESS IN CHEMISTRY

To succeed in this class you do not have to be a genius but you will need to work hard. You will need to study at least 6 hours each week outside of the classroom. This time will include reading, studying, and doing homework assignments. Preparing labs will require additional time. It is essential that you listen effectively and that you take good lecture notes in class. **Read the assigned material before coming to class** and be prepared to ask questions during the lecture. Chemistry is a cumulative subject; later topics require a good understanding of the earlier material. **It is essential that you not fall behind in your work.**

ATTENDANCE

Attendance in lecture and lab is expected. You will be dropped from the class if you are absent for 2 weeks without contacting me. If you do miss a lecture, go to Blackboard to view the slides that we covered that day and be sure to read text book.

HOMWORK

Homework will be assigned at each lecture. You should do the homework as soon as possible and come to the next lecture prepared to ask questions. It is almost impossible to learn chemistry without doing homework. Homework will be collected at each exam; do NOT wait until the night before the exam to do all the homework. Homework will not be graded but will be checked for completeness. Extra credit of 2% on the overall course grade will be given if 80% of the homework assignments are completed and turned in. **No late homework will be accepted.** Each assignment is given a number; **you must write the assignment number on your paper to receive credit.**

MEMORIZATION QUIZ

During the second week of the semester I will give you a quiz which requires that the following information be memorized. It will be worth 10 points (equivalent to one lab) in the lab grade. You will have three chances to pass with 80% or better, otherwise, you will get a zero for that assignment. If you get 80% or better, you get all 100 points. The quiz will be given at the beginning of class so if you are late you will have less time or may miss the quiz entirely.

Memorize the following (for a detailed list, see Blackboard):

- The names (including spelling) and symbols of the elements in Table 4.3
- The names, abbreviations and values of the metric prefixes *kilo*, *centi*, *milli*, and *micro* (see Table 2.2)
- The names, abbreviations and quantities measured by the metric units *gram*, *meter*, and *liter*

The material on the quiz will be random but will only contain the material listed above. You will have 5 minutes to complete the quiz. Expect 10-20 multiple choice questions of the following type:

What is the name of the element with the symbol F?

- Flourine
- Phosphorus
- Fluorine
- Iron
- None of the above

By what value does *kilo* multiply a metric unit?

- 1000
- 0.001
- 0.01
- 0.000001
- None of the above

STUDY GUIDES

Study guides will be assigned for six of the chapters covered in this course. These will be done in class. **Late study guides will not be accepted.** The lowest study guide score will be dropped.

EXAMS

There are four scheduled exams and a cumulative final exam in this class. **There are NO MAKEUPS for missed exams. NO EXCEPTIONS!** If you absolutely must be absent on the day an exam is scheduled, you may discuss with me the possibility of taking the exam **early**. The two-hour final exam will cover new material and cumulative material. Your score on the cumulative portion of the final exam can be used to replace a missed midterm exam.

LABS

Lab work will follow as closely as possible the material discussed in the lectures. There is no published lab manual for this course. All the lab assignments and experiments are available on Blackboard. It is your responsibility to print the assigned experiment and bring it with you to class. Prelaboratory assignments are due at the beginning of the lab period. Lab reports are due on the following Monday. You may not leave lab early unless you have completed and turned in the lab assignment. Late labs will be penalized 25%. No labs will be accepted after I have graded that lab. The lowest lab score of the semester will be dropped. Any missed labs will receive a grade of zero. **It is not possible to make up missed labs.** Three lab exams will be given.

ELECTRONIC DEVICES

Technology is wonderful in its place. Please silence your cell phone during class and refrain from texting or surfing the internet. If your cell phone rings during an exam you will lose 5% on the exam grade; if you are caught using your phone during an exam you will receive a zero for that exam. **You may NOT use the calculator on your cell phone during an exam.**

GRADING

The grading scale will be based on a straight percentage:

A = 100% - 90%
B = 89% - 80%
C = 79% - 70%
D = 69% - 60%
F = 59% - 0%

The final grade will be calculated as follows:

Average of exams	50%
Final exam	20%
Average of study guides	10%
Lab grade	20%

CANCELLED CLASSES

If I have to cancel a class there will be a notice on the door and on Blackboard stating that the class is cancelled.

BLACKBOARD

You are strongly encouraged to make use of Blackboard. It is like a virtual blackboard on the internet where I can post announcements. You can find the course syllabus, lecture and lab schedules, fill-in-the-blank lecture notes, homework assignments, and worksheets. Slides will be posted in a full-size, color version and as a black & white, 6 slides/page handout version. Some students may find it helpful to print the handout version to bring to class. It is recommended that you print the fill-in-the-blank lecture notes and bring them to class. Please see me if you need help with Blackboard. **You should check Blackboard every day. You are expected to be aware of anything posted there.**

ACADEMIC DISHONESTY

For the college policy on cheating and plagiarism, refer to the Reedley College catalog. Academic dishonesty is a cause for discipline under Board Policy 5500 (c) and procedures for formal discipline are spelled out in AR 5520 and also in *Student Conduct Standards and Grievance Procedures Handbook* available in the Vice President of Student Services' office. Every instructor has the authority and responsibility for dealing with such instances of cheating or plagiarism as may occur in class. For current information, consult your dean or the Office of Instruction.

The penalty for cheating in my class is a zero for both the originator and the copier for that assignment or exam. Anyone caught cheating will have to meet with me to discuss continued enrollment in the class.

ACCOMMODATIONS

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible. Please let me know if you have any unusual circumstances in your personal life that may affect your performance or attendance in class.

STUDENT LEARNING OUTCOMES

Upon completion of this course, students will be able to:

- A. Demonstrate a working knowledge of the periodic table in such ways as deriving inorganic chemical formulas and balanced chemical equations.
- B. Write the name of inorganic and molecular compounds from the formulas.
- C. Use dimensional analysis and stoichiometry to solve for an unknown parameter of density, volume, mass, pressure, temperature, molar mass and concentration.
- D. Apply the definition of acids and bases and explain the concept of pH.
- E. Apply basic safety procedures in the chemical laboratory and demonstrate laboratory skills in the use of analytical balances, following experimental procedures and the proper handling of glassware.

COURSE OBJECTIVES

In the process of completing this course, students will:

- A. Use the periodic table to predict properties of the elements and to obtain information for chemical calculations.
- B. Identify molecular and ionic compounds and the specific bonding types that occur in these compounds.
- C. Set up and balance chemical equations.
- D. Complete mole and mass calculations using the stoichiometry in balanced equations.
- E. Identify molecular and ionic compounds.
- F. Demonstrate the use of the ideal gas law and combined gas law to calculate quantities for all the variables in an equation, such as pressure, volume, moles and temperature.
- G. Identify the names and symbols of the elements on the periodic table and use these to derive inorganic chemical formulas and balanced chemical equations.
- H. Write the names of ionic and molecular compounds given the chemical formula.
- I. Use dimensional analysis to convert from the English to the metric system for measurements that are common to chemistry such as mass, volume, formula weights, density, linear measurements and temperature.
- J. Balance chemical equations, and use both the molecular and net ionic forms of the equation and stoichiometry to predict quantities of products from given reactant amounts.
- K. Describe covalently bonded compounds using Lewis structures.
- L. Apply the definition of acids and bases to the understanding of pH and acid-related problems.
- M. Demonstrate safe use of the laboratory equipment, such as an analytical balance, glassware and thermometers, while conducting laboratory experiments.