

OGLALA LAKOTA COLLEGE
SPRING 2014
COURSE SYLLABUS FOR CHEM 241 General Chemistry II Laboratory

Location: He Sapa

Time: Monday, 1pm - 4pm

Instructor: Deig Sandoval, Ph.D.

Office Hours: Tuesday 1:00 PM–2:00 PM

How To Contact Me: deig@olc.edu

Course Description: This is the second course in general chemistry which completes the bases for the different branches of chemistry (Physical, Analytical, Inorganic and Nuclear. Topics include: phase changes and properties of gases, liquids and solutions, reaction kinetics, equilibrium equations (including acid-base interactions and pH, oxidation-reduction reactions, and nuclear reactions)

Prerequisites: General Chemistry I and Lab (Chem. 233/231)

Required Textbooks: No-Text book is required. Students will be provided with hard copies of the laboratory exercises to be carried out.

Other Materials: Scientific calculator, paper or 3-hole notebook, ruler, and pencil.

Descriptive Reading Load: Grade12 reading level; one to two chapters every week.

Types and Amounts of Writing Expected: Laboratory reports will be required for each exercise performed. A sample outline will be provided for each student. The students will be expected to hand in a laboratory report (**individually**) per finished exercise.

Lakota Perspective Provided Through: Students and instructor will treat each other with respect. Lakota values such as **patience**, **respect**, and **honor** will be maintained. Students will aid the instructor with the inclusion of the Lakota perspective.

Course Objectives:

- To understand classification and nomenclature of chemical reactions
- To understand the chemical and physical behavior of gases and liquids
- To calculate pressure, temperature and volume changes of gases according to the common gas laws
- To quantitatively predict behavior of common ions in solutions according to:
 - Acid-base reactions and pH
 - Equilibrium reactions and constants
 - Redox reactions
- To write net ionic equations
- To balance ionic redox equations
- To understand the nature and behavior of radioactive elements

Course Requirements:

Attendance: You must attend all scheduled classes. You are also expected to be

punctual and to stay to the end of the class period.

There are no reinstatements once the student is dropped due to 5 absences, unless there is proof of an error in the attendance. In case that you get dropped by the registrar, there will be not REINSTATEMENTS (taken from OLC 2013-2014 Handbook).

In accordance with OLC policy, you will be dropped from the course if you miss more than three consecutive class periods. You will also be dropped, if you miss more than five class periods during the semester.

Missed exams can only be made up for documented absences like sickness, etc.; the make-up test will be modified and possibly more difficult (since you had more time to prepare) **and has to be taken before the next class session.** It is your responsibility to schedule a make-up exam with the instructor. Being absent also does not relieve you from handing in your assignments on time. **Only one make-up exam can be taken.**

Assignments: There will be seven graded online homework assignments @ **100 points each, due at the assigned date. The assignment will be closed after the due date.**

Exams: There will be three online exams (see attached class schedule); each exam counts for **100 points.**

Lecture Grade:

Assignments	700 pts
<u>Exams</u>	<u>300 pts</u>
	1,000 pts

The following grade scale will be used:

A = 900-1000

B = 800-899

C = 700-799

D = 600-699

F = below 600.

Course Philosophy: You are not studying and learning for the instructor, but for yourself. Grades are important for your academic career; nevertheless, your professional life really begins after you graduate. Understanding the basic principles of science will help you not only in any professional career, but also to understand and appreciate your surroundings and life itself.

But it is up to you. You have to invest your time, at least 4 hours of concentrated reading and 6 hours of problem-solving per week, for homework and exams. You will also have to participate in any threaded discussions and interact with the instructor once the course is migrated more onto the internet. This will take a lot of self-discipline on your time meaning that you have to appropriate enough time of your weekly schedule, sit down in front of the computer and actually do the work.

Tips to Succeed

1. **Read the chapter to be dealt with before the lecture, and, at least, before you try to do your homework or take an exam. Then it will be much easier for you to follow the lecture and to ask questions about the material that you did not understand. Do not just “read” the textbook, take notes and solve the example problems.**

In your notebook:

- a) **Comprehend new concepts in your own words.**
- b) **Define new terms (words) in your own words.**

A large part of the final exam will be essay questions. Be sure that you read through the “Chapter Review” and your hand out. Beware of the “Key Terms” (in full, comprehensible sentences).

3. **When you do your laboratory report, go back through the chapter in your textbook and read it carefully as to understand the concept illustrated by laboratory exercise.**
4. **Actively take part in the laboratory, especially when the activity is involved. Ask question if not sure about an instruction in the procedure. Your instructor will be there to help.**
6. **Know how to use your calculator, especially how to work with logarithmic number. If you feel uncomfortable with math, work through the appendices I, II and III in the textbook.**

If you have a disability and are in need of assistance to successfully complete this class please contact the OLC Coordinator of Support Services, at 455-6040.

TENTATIVE CLASS SCHEDULE

Week 1	Th. Jan 20	Introduction
Week 2	Th. Jan 27	Chemical reactions: single displacement and double displacement reactions
Week 3	Th. Feb 3	(continued) chemical reactions: single displacement and double displacement reactions
Week 4	Th. Feb 10	Properties of solutions (handout)
Week 5	Th. Feb 17	Properties of solutions (continued)
Week 6	Th. Feb 24	Ionization, acid and bases: pH measurements
Week 7	Th. Mar 3	Ionization, acid and bases: pH measurements (continued)
Week 8	Th. Mar 10	Boyle's and Charles' Laws of gases
Week 8	Th. Mar 17	Boyle's and Charles' Laws of gases (continued)
Week 9	Th. Mar 24	Spring Break; 3-(17-21)-2014

Week 10	Th. Mar 31	Chemical equilibrium-reversible reactions
Week 11	Th. Apr 7	Chemical equilibrium-reversible reactions (continued)
Week 12	Th. Apr 14	Oxidation-Reduction reactions
Week 13	Th. Apr 21	Oxidation-Reduction reactions (continued)
Week 14	Th. Apr 28	Neutralization Reactions- Titration
Week 15	Th. May 5	Final Exam, Comprehensive.

Disclaimer: Information contained in this syllabus was, to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of the semester. However, this syllabus should not be considered a contract between Oglala Lakota College and any student. The instructor reserves the right to make changes. Students will be informed of any such change.