

Chemistry 11: Chemistry Laboratory for the Liberal Arts Spring 2018

Perequisite: None Number of Units: 1 Total Hours of Laboratory: 54
Advisory: NOTE: CHEM 10 taken with CHEM 11 meets GE requirements in science.

COURSE INSTRUCTOR: Cliff Gottlieb, Phone: 242-2323. e-mail cgottlieb@shastacollege.edu
web page <http://www.cliffschemsitry.com>

Office Hours: M 10:30 - 11:00AM; T 11:00AM – 2:00 PM; W 9:30 – 11:00 AM and by appointment in 1412. Please come visit!

Catalog Course Description

Laboratory experiments and demonstrations, almost entirely non-mathematical, covering the basic concepts of the lecture course. The laboratory is designed to help students learn how to use various chemicals around us, safely and effectively. This course may include field trips. It is highly recommended that students take this laboratory course concurrently with the CHEM 10 lecture course. This course will satisfy the general education requirement for a laboratory science if taken with the lecture course.

Basic Materials for the Class: Lab Safety Goggles – Must meet ANSI Standard 287.1 1989 (can be purchased from Science Club on 1st day of lab; about \$6)

STUDENT LEARNING OUTCOME:

Students will be able to find, interpret, analyze and apply information and data to solve problems and answer questions in chemistry.

Classroom Management/Instructor Policies

There will be one lab per week for three hours. I will introduce each activity at the beginning of lab and students will perform the activity. At the end of lab, there will be a general discussion over the concepts and discoveries made. You must submit the required written material at the end of each lab period or the online material by the due date. This material will be graded on a 10 point scale. You are responsible for knowing and following the safety rules from the safety handouts and lecture and acting in a safe manner at all times. VIOLATION OF SAFETY RULES WILL LEAD TO EXPULSION FROM THE CLASS. If you are not sure, **ASK**.

Methods of Evaluation/Grading Scale

There will be 16 lab activities. You will be required to hand a written lab report or a lab report on the online Canvas program for each lab activity. The lab reports must be written in blue or black ink or pencil. Each lab period report is worth 10 points. The course grade is a percentage based on the earned points divided by 150 points. So you can miss one lab without a penalty or if you attend all labs, you will have one lab grade as extra credit. Up to 30% of the total lab points may be deducted from your grade based on your behavior, participation, ability to follow directions, and acting in a safe and professional manner. So for the class: A = 90-100%; B = 80-89%; C = 70-79%; D = 60-69%; F <60%.

NO MAKE-UP LABS ARE PERMITTED, PERIOD!!! DON'T EVEN ASK!! **Prior notification of an absence may allow you to make arrangements.** Keep track of your own total points and grade. Do not ask me to figure out your grade. Each time you ask me about the number of points you have in the class, I will deduct 5 points from your course total. If you have any corrections or grade questions about any lab assignment, you must notify me within one calendar week after the assignment is returned to the class

ACADEMIC HONESTY: DON'T CHEAT! I will not tolerate cheating which I define to include the one who knowingly gives as well as the one who receives. It also includes "signing" the roll sheet for someone else and copying other's work. The penalty for the first offense is a 50 point deduction from your grade. If you have concerns regarding academic honesty, or any aspect of cheating, please see me. All work is to be completed individually unless explicitly stated otherwise.

I will do everything I can to help you succeed in this course!! You just have to ask!! No Freaking Out!!

OTHER RESOURCES: **Science Learning Center.** It has tutors and other resources available if you are on campus
Academic accommodations imposed by a disability: Academic adjustments due to a disability or serious medical condition: Students should contact the office of Partners in Access to College Education (PACE) for authorization of academic adjustments (accommodations) for this course. The office is located in room 2006 (242-7790). Students will need to provide documentation that verifies the condition and the type of limitations that may result. The staff in PACE have been designated with the authority to 1) evaluate that documentation, 2) determine which academic adjustments are appropriate to this course, and 3) facilitate the provision of approved academic adjustments. Students will submit notices directly to the course instructor regarding specific academic adjustments that are authorized for this class.. www.shastacollege.edu/student-services/dsps

NON-DISCRIMINATION STATEMENT: The Shasta-Tehama Trinity Joint Community College District (“Shasta College”), in accordance with applicable Federal and State Law, does not discriminate on the basis of race, color, national origin, sex, religious preference, age, disability (physical and mental), pregnancy (including pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), gender identity, sexual orientation, genetics, military or veteran status or any other characteristic protected by applicable law in admission and access to, or treatment in employment, educational programs or activities at any of its campuses. Shasta College also prohibits harassment on any of these bases, including sexual harassment, as well as sexual assault, domestic violence, dating violence, and stalking. Inquiries regarding equal opportunity and non-discrimination may be directed to:

Greg Smith, Associate Vice President of Human Resources, (530) 242-7649, gsmith@shastacollege.edu

Sandra Hamilton Slane, Associate Dean of Students, (530) 242-7799, sslane@shastacollege.edu

Tentative Lab Schedule

Date	Lab Score	Date	Lab Score
1/17		3/21	
1/24		3/28	
1/31		4/4	
2/7		4/18	
2/14		4/25	
2/21		5/2	
2/28		5/9	
3/7		5/16	
3/14		Your final %	$\frac{\text{Your total points} \times 100\%}{150} =$

This schedule may be changed at the instructor's discretion.

Course Objectives

Upon successful completion of the course the student will be able to:

1. Explore chemistry on a hands-on basis with knowledge of safety procedures and following written lab procedures.
2. Understand and use information on Material Safety Data Sheets and in the Merck Index and other data on toxicity such as LD50
3. Know the names and use a variety of glassware and laboratory equipment such as Bunsen burners, electronic balances, distillation apparatuses, pH meters, microscopes, Celsius thermometers, and spectrophotometers safely and effectively implement a simple experiment using parts of the scientific method.
4. Measure mass and volume using the metric system.
5. Observe and distinguish between chemical changes and physical changes using lab equipment and observation skills
6. Prepare solutions.
7. Perform inorganic synthesis experiments.
8. Use various solvents observe the principle of like dissolves like
9. Perform experiments involving colors and spectroscopy
10. Perform a series of chemical reactions including acid-base, redox, and precipitation reactions
11. Measure the pH of solutions.
12. Perform isolation or separation experiments such as chromatography, distillation and chemical separations
13. Perform organic synthesis experiments
14. Perform combustion reactions and explore temperature changes and the changes in enthalpy
15. Explore the properties of everyday materials, including but not limited to soaps, detergents, cosmetics, and fabric dyes, in the laboratory.
16. Synthesize polymers.
17. Identify unknowns from observed chemical reactions

The Science Learning Center offers a comfortable study environment and a variety of resources to assist students in any of the Science classes. There are computer programs that cover specific topics, old tests, Text books for most courses and the Solution Manuals that go with them. Microscopes and slides are available for reviewing some labs and FREE TUTORING.

FREE TUTORING is done by students who have successfully completed the course; often with the same instructor. Tutors must have a “B” or better in the courses they tutor. They can help you initiate good study habits and organizational skills to maximize your study time. They can also help to clarify any confusing concepts. When there is interest, we run study groups that are led by tutors.

OTHER RESOURCES AVAILABLE

- **Copy Machine** A copy machine is available in the computer area for .10 per copy.
- **Office Supplies** For your use, we have a paper cutter, stapler, scissors, tape and colored pencils .
- **Calculators** We have both basic scientific and graphing calculators. They can be checked out for use in the center and for test-taking. We hold your driver’s license.
- **Computers** We have four internet connected computers with Microsoft Office suite installed. Printing is available off the computer for \$0.10 a page. We also have 2 Laptops to use in the center.

STUDYING IN THE SLC: There is room available for students to study alone or in groups. We have one small room where students can isolate to minimize distractions. You are allowed to eat in the SLC.

The **SCIENCE LEARNING CENTER** is a friendly, helpful, encouraging environment, which could become your home away from home. Come in and check it out.

OPEN: MON. & WED. 7:30 AM – 6 PM; TUES. & THURS. 7:30 AM – 4 PM; FRI. 7:30 AM – 3 PM

ADDING A CLASS

Students may add a full-term class through the fourth week of the term.* After the first two class meetings, approval of the instructor is required to add the class, which includes both the signature of the instructor and the first date of attendance. **IT IS THE STUDENT’S RESPONSIBILITY** to pick up the form from the Admissions and Records Office and take it to the instructor for approval. The student must then return the form to the Admissions and Records Office or Extended Education Center for processing before the add is finalized.

DROPPING A CLASS WITHOUT RECORD

Students may drop a class, and have no notation appear on their transcripts, through the fourth week* or 30% of the term for classes less than a semester in length. **IT IS THE STUDENT’S RESPONSIBILITY TO DROP CLASS (ES)**. The necessary forms are available from Admissions and Records, Extended Education Centers, or by mail. If a student intends to drop a class and stops attending but fails to file the necessary forms, a failing letter grade may be assigned by the instructor.

WITHDRAWING FROM A CLASS WITH A "W" GRADE

Students may withdraw from a class after the official "drop" date and up through the fourteenth week or 75% of the term for classes less than a semester in length. The notation "W's" will appear on the student's transcript and will not be used in calculations of grade point average. Excessive "W" shall, however, be used as factors in probation and dismissal procedures. **IT IS THE STUDENT’S RESPONSIBILITY TO OBTAIN FORMS AND SUBMIT THE NECESSARY PAPERWORK TO WITHDRAW FROM A CLASS**. Forms are available from Admissions and Records, Extended Education Centers, or by mail. Students who have not dropped or withdrawn from a class before the end of the fourteenth week or 75% of the term will be assigned a course grade.

ATTENDANCE

Students are expected to attend all class meetings. A student who fails to attend the first meeting of a course without notifying the instructor may be dropped from the class. In addition, an instructor may drop a student during the first 30% of the term for excessive absences. Nevertheless, **IT IS ALWAYS THE STUDENT’S RESPONSIBILITY TO OFFICIALLY DROP OR WITHDRAW** from the class. Students who fail to file the necessary forms, even though they stop attending class