

Chemistry 117
General Chemistry Laboratory
Spring Semester 2006
Professor Teddy (Tewodros) Asefa

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Office hours: Wednesday, 1-2 pm or by appointment

Course Website: <http://syllabus.syr.edu/CHE/tasefa/che117/>

Laboratory Technician: Mary Terrinoni

Times: Mon. 2:15-5:15 pm, Tue. 2:00-5:00 pm, or Tue. 7:30-10:30 pm

Laboratory: 203 Bowne Hall

Credits: 1

Chemistry Undergraduate Secretary: Carol DeGirolamo, Office: 216 Bowne Hall,
Tel: 443-2851

Any and all problems involving registration, scheduling, or other clerical issues are best handled by seeing the undergraduate chemistry secretary: Carol DeGirolamo in 216 Bowne Hall (Tel: 443-2851).

Course Description/Learning Goals: This laboratory course both reinforces and supplements the lecture, CHE 116. Students will learn both qualitative and quantitative experimental techniques for investigating the properties and reactions of chemical substances. Through active observation, students will have the opportunity to demonstrate concepts and chemical principles for themselves.

Materials: H. A. Neidig, Editor, selected modules from *Modular Laboratory Program in Chemistry*. The laboratory manual is available at the Schine Center bookstore. Safety glasses have to be worn at all times and are provided for you at the beginning of each lab. If you prefer to have your own pair, safety glasses are available for purchase at the Schine Center bookstore. You will then be responsible for bringing them to each lab.

Preparation for Lab: Your success in this course will depend on your pre-lab preparation more than anything else. Reading the modules and thinking through the experiments step-by-step *before* you arrive in lab is imperative. Each module includes a pre-lab assignment, which must be turned in *at the beginning* of the laboratory period. The remainder of the laboratory report (post-lab assignment, which includes also a data sheet), will be due the following week. A deduction of 10% will be made for reports up to one day late, with additional 5% deduction for each subsequent weekday. Both pre-lab and post-lab assignments are to be turned in individually. This means, you have to *complete and turn in your own individual pre-lab and post-lab assignments*.

Office Hours: Professor Teddy Asefa will be available to answer questions and deal with problems or concerns during office hours. He will also be present at each lab, but will not be able to discuss extensively individual problems and issues, as she has to attend to the laboratory in general. If you can not come at office hours, you may also call or send an email to make an appointment at a time convenient to you. TAs will also be available. You are strongly encouraged to obtain any help that you may need.

Email: The professor and the TAs will only read and answer emails that have a SU email address (*yourname@syr.edu*). All others are filtered out, due to virus concerns.

Lecture: Students in this course normally take the accompanying lecture course concurrently with CHE 116. Note, however, that *the two courses are separate*, with *different professors*, and *grading is also separate*.

Grading: The laboratory reports will count for 80% of the grade. The grade for each report will be determined by both the pre-lab assignments (25%) and post-lab assignments (75%, made up of data sheet and report). Quizzes (generally unannounced) will count for 10% of the grade. A technique score will count for the remaining 10% of the grade. This score will be determined by the TA, based upon his perception of the student's preparedness, cleanliness, punctuality, and attention to safety. All of the work turned in during this semester is done individually. ***There will be no make-up labs.*** Therefore, you must complete eight of the nine labs given in the semester. If you complete all nine labs, the lab (quiz, pre-lab and post-lab individually) with the lowest grade will be dropped. If you miss one lab that lab will be the one dropped. If you miss two or more labs, one or more of these will be counted as zero.

A deduction of 10% will be made for reports up to one day late, with additional 5% deduction for each subsequent weekday. Both pre-lab and post-lab (which includes also the data sheet) assignments are to be turned in individually. Once an assignment has been turned in to the TA, it cannot be handed back to the student until it has been graded.

Cheating and plagiarism: Students caught cheating will fail the assignment (gets 0 point on the specific assignment) and be referred to the appropriate university office for disciplinary action. A letter will be sent explaining the punishment to the Associate Dean of Undergraduate Affairs of the College of Arts and Sciences and to the corresponding Dean of your own College, if you are not an A&S student. If you have further complaints regarding the failed assignment and the letter, you must contact the Associate Dean for Undergraduate Affairs of the College of Arts and Sciences directly.

Each student has to turn in his or her own pre-lab, post-lab and data sheets. Copying of the pre-lab, post-lab and data sheets instead of turning in your own, in your own words is considered cheating and will be treated as stated above, with 0 points given for the assignment and a letter to the Dean's offices. If you work with one or more instructors of CHE 117, you still have to make sure that still **write your own report**. If two reports are alike in their entirety or in parts, it is considered cheating. Turning in a post-lab and data sheets for a lab you did not complete is also considered cheating.

If you let someone copy your work from you, you will have 50% deduction from your grade and a letter sent to the Associate Dean of Undergraduate Affairs and persons in charge in your college describing these.

Plan your weekly work ahead, so that you have time to complete all assignments for all classes. Further, make sure you make use of the TA's and the professor's office hours. There are several throughout the week and you can always schedule an appointment, if you have a conflicting schedule. There are no excuses for not turning in your work in time, unless you need special accommodations (see section below).

Cell Phones and Pagers: Cell phones, pagers and other similar devices are **NOT** permitted. If you insist on using them after being told to turn them off, you will also be asked to leave the lab and receive a zero for the missed lab.

Missing a lab: If you miss a lab, regardless of the circumstances, you will be given a zero in the lab. There are absolutely **NO EXCEPTIONS**. You are **NOT** allowed to turn in post-lab assignment and data sheet for a lab that you missed (see section on Cheating and Plagiarism).

Lab Works in Groups. While in most cases, labs are done individually, some lab works may require to be done in groups of two students. In such cases, the TA or Prof. Asefa lets you know that this will be the case and assigns you to work with someone else in the that specific lab session. In such cases, you still have to submit separate lab reports and data sheets, no matter how similar the results may be with your group partner.

Special Accommodations: Students with any sort of disability who may need special consideration or accommodation should see Prof. Asefa immediately. If you contact the Professor later during the semester, we might not be able to accommodate your special needs. Notices of special accommodations given to the professors of CHE 116 will not reach Prof. de Bettencourt-Dias, so you have to contact him directly.

Student Athletes: If you are a student athlete and you have to miss a lab due to conflicts with game schedules, etc, you and your coach or athletic advisor have to contact Prof. Asefa *before* the date where the conflict occurs. You will be allowed to make up for the missed lab in another section during the same week. If you do not make up the lab, you are **NOT** allowed to turn in post-lab assignment and data sheet for this lab (see section on Cheating and Plagiarism above).

Switching Sections: Once you have been assigned to a section, you are **NOT** at any time allowed to switch sections during the semester, unless we have proof that there is a conflict with another class or an exam, or you need special accommodations. You **and** your instructor have to notify Prof. Asefa **before** the conflict occurs so that we can make arrangements.

Punctuality: Be sure to arrive on time. Lab sessions will begin with important information concerning the procedures to be followed, safety considerations and quizzes. If you arrive late, you will not be able to take the quiz. If you arrive significantly late and if the TA perceives that time to be very late, he/she may decide not to let you in for that lab session as you will not be able to properly follow the procedures and the safety instructions discussed while doing your lab works. You also need to turn in your assignments as soon as you arrive. Students with any sort of disability who may need special consideration or accommodation should see Prof. Asefa immediately again.

Safety: Safety is the most important issue during in the lab. Please take the laboratory and its risks seriously. Understanding these risks and minimizing them is the best way to avoid accidents. If you follow these guidelines and stay alert to possible hazards, your experience in this course should be a safe one. You must follow the guidelines and stay alert to avoid any possible injury to yourself or others.

Hazards. The main potential hazards in the laboratory are fire and exposure to toxic and/or reactive substances. Though toxicity and reactivity of compounds varies tremendously, a good policy is to handle every chemical with respect. Be aware that exposure to chemicals may happen in several ways:

Inhalation

Skin contact (some chemicals go right through skin)

Consumption (do **NOT** eat or drink chemicals).

Exposure can also occur through cuts from contaminated surfaces. Glass, especially if broken, is to be disposed of with glass waste – never in the trash. Needles and other sharp objects must also be disposed of in special containers. Broken laboratory glass-wares may cause cuts in the skin and be cautious with them.

Attire. Safety glasses must be worn **at all times** in the lab.

Forbidden items in the lab are: shorts, sandals (or any shoes that do not completely cover your feet), and contact lenses (wear glasses instead). Your skin below the waist must be completely covered. Leather shoes provide better protection than canvas shoes. You are advised to wear clothes that are old or inexpensive. Long hair must be held in place to the back of your head. You are responsible for bringing the bands or clips to hold back your hair, the TAs do not have extra rubber bands for this effect.

If you do not comply with the attire rules, you will be asked to leave the lab to get appropriate clothing. If you do not make it back to complete the lab, you will receive a zero for that particular lab.

Safety equipment. Make sure you know the location and proper use of each piece of safety equipment in the lab, including fire extinguishers, showers, and eyewash stations.

Lab practices. While carrying chemicals across the lab or handling them at your workspace, be cautious to avoid any spills. Avoid getting chemicals on your hands. Even if you are careful about this, take an extra precaution and avoid your hands to contact with your body, particularly on the face and eyes, after handling chemicals. Work neatly and clean up any spills immediately. If you are not sure of the proper way to clean up a spill, ask your TA. Wash your hands before you leave the lab and whenever you may have gotten chemicals on your hands. **Eating, drinking, and smoking are prohibited in the lab. Chewing gum is also prohibited.** Also forbidden are pranks of any kind and any form of physical roughhousing.

NON-COMPLIANCE WITH ANY OF THE SAFETY RULES, LABORATORY PRACTICES AND TA INSTRUCTIONS ARE GROUNDS FOR DISMISSAL FROM THE LAB.

If you are ever in doubt about the safety of any procedure or situation, **ask!** Report all accidents immediately! Do not try to hide anything out of embarrassment - you will be making the situation worse, endangering yourself and others. Let the TA or me decide the proper course of action. Those not involved should clear the area.

CHE 117 Course Calendar, Spring 2006: (subject to change)

Date	Experiment
Jan. 23 or 24	Safety Practices in the Chemistry Laboratory (TECH 380)
Jan. 30 or Feb. 31	Estimating the Calorie Content of Nuts (THER 428)
Feb. 6 or 7	Studying the Rate of the Reaction of Potassium Permanganate and Oxalic Acid (KINE 505)
Feb. 13 or 14	Introducing Equilibrium (EQUIL 392)
Feb. 20 or 21	Determining the Formula and Estimating the Dissociation Constant (STOI 438)
Feb. 27 or Feb. 28	The Chemistry and Qualitative Analysis of Cations: Group Separations and Separations of Group I Cations (ANAL 364)
Mar. 6 or 7	The Chemistry and Qualitative Analysis of Anions (ANAL 367)
<i>Mar. 13 or 14</i>	<i>Spring Break – no class</i>
Mar. 20 or 21	Determining Molar Mass by Freezing Point Depression (PROP 500)
<i>Mar. 27 or 28</i>	<i>No Labs</i>
Apr. 3 or 4	Hemolysis, Plasmolysis and Qualitative Properties of Hemoglobin (REAC 225)
Apr. 10 or 11	Preparing Soap and Determining Its Properties (PROP 319)
Apr. 17 or 18	Turn in last data sheet and post-lab assignments.