Chemistry 113B  Organic Chemistry Laboratory (Sec N)  
Fall 2013

Contact Information

Instructor: Roy K. Okuda, PhD
Office Location: Duncan Hall 9A (basement)
Telephone: (408) (924-2525)
Email: roy.okuda@sjsu.edu
Office Hours: Tues 2:00 to 3:00pm; Wed 11:00am - 12:00 noon
Class Days/Time: Lab: MW 2:30-5:20pm; Seminar W 1:30-2:20pm
Classroom: Science 139
Prerequisites: Completed Chem 113A with grade of "C" or better (and appropriate prerequisites for this courses). Students who did not take Chem 113A at SJSU must see the instructor; you may be asked to provide information on the 113A-equivalent course you took at another institution to determine your preparation for 113B.

Faculty Web Page and MYSJSU Messaging

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on my faculty web page at http://www.sjsu.edu/people/firstname.lastname. You are responsible for regularly checking with the messaging system through MySJSU (or other communication system as indicated by the instructor) to learn any updates. Check the email on your mySJSU account before each class meeting and on a regular basis for new documents.

Course Description

Chem 113B is a continuation of Chem 113A, including more advanced laboratory techniques used in the isolation, purification, characterization, and synthesis of organic compounds. Emphasis will be placed on the practical skills and knowledge required to successfully carry out multi-step syntheses and to adapt or design laboratory procedures, rather than merely to follow "cookbook" instructions. Formal lab reports in ACS
(Journal of Organic Chemistry) style will emphasize writing and communication skills. See the "Schedule of Experiments, Quizzes and Final" for the specific course content.

Course Goals and Learning Objectives

Course Learning Outcomes (CLO)

• Demonstrate understanding of core concepts and to effectively solve problems in organic chemistry as covered in Chem 112A and 112B
  • Mastering advanced laboratory techniques for manipulation of organic compounds (synthesis, separation, purification)
  • Characterization of organic compounds by physical and spectroscopic methods including but not limited to: mass, infrared (IR), 1-D and 2-D proton NMR, and 13C NMR spectroscopies
  • Apply mass spectroscopy (exact mass, and fragmentation patterns) to organic structural analysis.
  • Select conditions for GC analysis and analyze GC chromatographic data.
  • Maintain useful contemporaneous notes of experimental procedures.
  • Write original formal laboratory reports in ACS journal style.
  • Locate scientific data as needed.
  • Design experimental procedures for new reactions, and modify existing procedures as needed. (deduce reasons for the success or failure of a procedure)
  • Operate safely in the laboratory, and dispose of waste properly

Program Learning Outcomes (PLO)

Chemistry 113B satisfies the following Program Learning Outcomes for the Chemistry Department:

PLO #2 - Demonstrate understanding of core concepts and to effectively solve problems in organic chemistry.

PLO #6 - Answer questions regarding safe practices in the laboratory and chemical safety.

PLO #7 - Demonstrate safe laboratory skills (including proper handling of materials and chemical waste) for particular laboratory experiments.

PLO #10 - Write a formal scientific laboratory report, using the format and style of an article in a peer-reviewed American Chemical Society journal

Required Texts/Readings

Textbook

Chem 113B Lab Notes available for purchase from the SJSU Chemistry Club (DH 20)

IMPORTANT: you MUST have the current (Fall 2013) version of the Chem 113B Lab Notes - important procedural and safety changes have been made from prior versions. You must present your copy of your Lab Notes with your prelab notebook for approval

Available at the Spartan Bookstore, or other book sellers such as Amazon.com
Other Readings

- American Chemical Society (ACS) Style Guide
- McMurry, John, Organic Chemistry, or any organic chemistry textbook

Other equipment / material requirements

- Scientific laboratory notebook with duplicate numbered pages
- Basic calculator
- Pencils, rulers

Library Liaison

The Chemistry Library Liaison is Emily Chan (emily.chan@sjsu.edu)

Course Requirements and Assignments

Catalog Description: Continuation of Chem 113A including more advanced work. Prerequisite: Chem 113A (with a grade of "C" or better; "C-" not accepted). Pre/Corequisite: Chem 112B. Misc/Lab: Lecture 1 hour/lab 6 hours.

Details: Chem 113B is a continuation of Chem 113A, including more advanced laboratory techniques used in the isolation, purification, characterization, and synthesis of organic compounds. Emphasis will be placed on the practical skills and knowledge required to successfully carry out multi-step syntheses and to adapt or design laboratory procedures, rather than merely to follow "cookbook" instructions. Formal lab reports in ACS (Journal of Organic Chemistry) style will emphasize writing and communication skills. See the "Schedule of Experiments, Quizzes and Final" for the specific course content.

The scheduled lab time for this section is MW 2:30 AM to 5:20 PM. A lecture for this course is scheduled every Wednesday at 1:30 to 2:20 PM. These lectures will describe general background and applications of several spectroscopic techniques that we will use in Chem 113B. In general, we have limited time to cover problem solving during these Wednesday sessions. You will be expected to work problems on your own, including from the textbooks and problem sets.

From Chem 113A, you should already be familiar with the website that Dr. Straus has created. Bookmark and refer to this site often as it contains information about nearly all of the techniques you will encounter in Chem 113B:

http://www.chemistry.sjsu.edu/straus/visioche.htm
In Chem 113B, you will be expected to have a working knowledge of the techniques that were covered in Chem 113A. In most cases, we will not spend much (or any) time reviewing information and methods that were covered in Chem 113A. You are expected to be able to troubleshoot problems if they arise.

Tentative Course Calendar:

*Chem 113B Tentative Schedule of Experiments - Fall 2013*

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Start Date</th>
<th>Due Date and Lab Quizzes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check-In</td>
<td>Aug 21 (W)</td>
<td>---</td>
</tr>
<tr>
<td>0 (stilbene)</td>
<td>Aug 26 (M)</td>
<td>Sept 16 (M)</td>
</tr>
<tr>
<td>1 (menthol)</td>
<td>Oct 2 (W)</td>
<td>Nov 6 (W)</td>
</tr>
<tr>
<td>2 (ester)</td>
<td>Oct 21 (M)</td>
<td>Nov 20 (W)</td>
</tr>
<tr>
<td>4 (dimedone)</td>
<td>Nov 13 (W)</td>
<td>Dec 4 (W)</td>
</tr>
<tr>
<td>Check-out</td>
<td>Dec 9 (M)</td>
<td></td>
</tr>
</tbody>
</table>

Experiment reports are due at the start of the lab period indicated by the due date. Once the reports are collected a Lab Quiz will be given, usually in the first 5-10 minutes of the lab period. You must be present to take the lab quiz - no makeups will be provided.

Dec 11  **Final Exam** (12:15 to 2:30pm)

Another version of the schedule appears at the end of this document.

This is a tentative schedule and is subject to modification (except for the Final Exam and due date for Exp. 5). See below for the week-by-week schedule.

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at [http://www.sjsu.edu/senate/docs/S12-3.pdf](http://www.sjsu.edu/senate/docs/S12-3.pdf).

NOTE that University policy F69-24, “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

**Attendance Policy / Lab Makeup**

Attendance is mandatory for ALL class and lab meetings. The schedule is set to provide just enough time for most students to complete all of the experiments. Missing labs will cause you to fall behind and options for makeup are limited (see below). Keeping on time with the schedule requires a significant amount of preparation before each lab meeting.
Makeup of labs may be allowed in only certain circumstances and is not guaranteed. In general, only unexpected circumstances such as medical reasons with a doctor's note will be considered. A "Permission to work in organic chemistry labs" form must be signed by me and presented to the other lab instructor (which must be the other section of Chem 113B). However, the other instructor may choose to refuse to accept a makeup student, so obtaining a permit does not guarantee additional time to work. Work permits will not be granted due to falling behind due to poor preparation or missing labs due to travel or other unauthorized absences.

Grading Policy

GRADING (see below for numerical breakdown and percentages)

Formal Reports: For each experiment, 20 pts will be given for the report, notebook* and products (if requested), and 5 pts for the lab quiz. Points are deducted for reports turned in after the due date for that report (up to 1 pt/day). Late reports will not be accepted after the graded reports are returned to the class. The report for Experiment 5 dinedone has a firm deadline - no late reports will be accepted after the Final Exam.

*Included in the Formal Report grade are points for the Laboratory Notebook - at the end of each lab day, you must present your lab notebook to be signed by the instructor. If not signed, 1 point/missing signature will be deducted from the total grade for that report. Signatures will not be given once a lab period is over.

Spectroscopy Quizzes: A total of 6 spectroscopy quizzes will be given during the Wednesday 1:30 PM class periods (see schedule). You may take all 6 (lowest score will not be counted), or choose to take 5 quizzes (all quizzes count). If you miss a quiz for any reason, this will be the quiz which does not count for your grade.

Final Exam: A comprehensive Final Exam will cover aspects of both lab and spectroscopy lectures.

Note that the final 113B grade is based on a conglomerate of the individual graded items (each item is not assigned a "grade"). Thus, if you have a somewhat low point total on one item, you can make it up with a better point total of another graded item. The course grades are given on a "+/-" system, and the instructor may modify the point total up to 10% higher or lower based on a student's performance in the lab (such as preparation and efficient use of time, attendance, general lab skills, etc.).

All quizzes and exams are open notes and open book (only for the course textbooks). You are required to bring your OWN books for the exams. Sharing of books during tests is not allowed.

Grading information:

The grades for this course will assigned as "plus/minus" and will be based on the following categories:

5 experiments @ 25 pts each* = 125 (50%)
5 spectroscopy quizzes @ 10 pts each** = 50 (20%)
The course grade will generally follow the following correlations:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>100-97%</td>
</tr>
<tr>
<td>A</td>
<td>96-93%</td>
</tr>
<tr>
<td>A-</td>
<td>92-90%</td>
</tr>
<tr>
<td>B+</td>
<td>89-87%</td>
</tr>
<tr>
<td>B</td>
<td>86-83%</td>
</tr>
<tr>
<td>B-</td>
<td>82-80%</td>
</tr>
<tr>
<td>C+</td>
<td>79-77%</td>
</tr>
<tr>
<td>C</td>
<td>76-73%</td>
</tr>
<tr>
<td>C-</td>
<td>72-70%</td>
</tr>
<tr>
<td>D+</td>
<td>69-67%</td>
</tr>
<tr>
<td>D</td>
<td>66-63%</td>
</tr>
<tr>
<td>D-</td>
<td>62-60%</td>
</tr>
<tr>
<td>F</td>
<td>59-0%</td>
</tr>
</tbody>
</table>

Late reports beyond a deadline will be assessed a penalty of up to 1 point per day past the due date (weekend days will count!) - medical absences with documentation will be considered. Late reports for Experiments will be accepted only up until graded reports are returned to the class (i.e. late reports will not be accepted once I return the graded reports to the rest of the class). The formal report for Experiment 5 dimedone must be received by the due date shown on your schedule (no reports accepted after the final exam is given). Use the attached schedule to plan your time accordingly. Preparation for the lab will help you immensely to keep on schedule. All formal reports are mandatory: for each formal report not turned in, 10 points will be deducted from the total points accumulated for the semester.

For security, final course grades are not posted, sent by email, or given over the phone. If you would like a breakdown of your 113B scores, leave a stamped and addressed envelope with me at the final exam.

For upper division courses (R, S, V) include the following statements:

“A minimum aggregate GPA of 2.0 SJSU Studies (R, S, & V) shall be required of all students as a graduation requirement.” To see full text, review University Policy S11-3 at http://www.sjsu.edu/senate/docs/S11-3.pdf.

Equipment

You will be assigned an individual locker of equipment for your use during this course. You will be checked into your locker during the first lab period by the instructor, and sign an acknowledgement that you have all of your equipment. You are responsible for keeping track of all of the contents of your drawer. If you lose or break any item, you will be assessed a replacement fee at the end of the semester, so be careful with your equipment. It is possible to complete this course with a relatively small bill for expendable items: it is also possible to end up with a >$100 bill. At the end of each lab period, make sure you have collected all your locker items before leaving.

When you check in, you will be given a coded check out pad from the storeroom. You may use this pad to check out additional equipment from the storeroom which may be required for a particular experiment. Note that certain equipment items checked out must be returned the same day to avoid a late fee. Remember, the code on your pad is assigned to you only, don't lose it, or someone else can check out items which will be charged to you.
At the end of the semester, you must clean out your locker, replace all broken equipment or glassware, and have the instructor sign the check-out form. If this process is not completed fully, you may be charged a fee to clean and refurbish your locker. (also, if you drop the class, you must checkout before December 9 to avoid this fee)

Classroom Protocols for Chem 113B

Schedule and Preparation of Experiments:

Experiments and due dates are given in the detailed schedule at the end of this greensheet. Note that the lab report and all supplementary material are due at the beginning of the lab period for the specific "due date.” A detailed prelab lecture about each experiment will be given on or before the "begin" date of each experiment. In addition, supplemental lectures may be given as needed. The Schedule is subject to change and changes will be announced in class.

→ You will be given the starting material for each experiment only after the instructor checks both your preliminary writeup in your notebook, and the table of reagents and products. Your starting material will be provided to you in a vial, which you will swap for an empty vial. If you need a second sample of starting material, you may be assessed a penalty.

A major requirement for success in Chem 113B is advanced preparation. This means you should read the experimental background and procedures carefully before the lab period. Note that you MUST have your preliminary writeup and table of reagents and products completed BEFORE you will be given any starting material. Obviously, if you have to work on these items during the scheduled lab period, you will seriously deprive yourself of adequate bench time to complete the experiment. A less obvious benefit of advanced planning will be that you may be able to use time during long procedures (e.g. refluxing) to perform other aspects of the experiment to catch up or get ahead. The lab schedule is arranged so there should be adequate time to complete each experiment well within the allotted dates.

Lab Notebooks:

As stated above, lab notebooks will be a component of your grade. They must be kept up to date on a daily basis with details of your results and progress. The preliminary write-up of all notes and observations must be kept in a bound notebook that has pre-numbered duplicate pages. All entries must be made in pen - NEVER erase or use "white out"! RECORD ALL OF YOUR NOTES AND OBSERVATIONS DIRECTLY INTO THE NOTEBOOK, AND AS THEY OCCUR. In other words, don't write down numbers on scraps of paper and transfer them later, or try to memorize your measurements. The main purpose of the notebook is to be a daily "journal" for your laboratory activities to which you, or someone else, can read at a later date, and fully understand what you did, how you did it, and why the results came out the way they did. It's OK to scratch out entries - the main point is that it is organized and understandable.

As you'll learn, in professional situations the lab notebook is considered a legal document, and there are rules about how they are prepared and maintained. A typical practice is to have the notebook "countersigned" at the end of each lab day by someone else. For Chem 113B, I will countersign all notebooks - this means you must show me your
notebook before you leave each day to review and sign. If you miss getting my signature, in the report grade, one point per missing signature will be deducted.

**Lab Reports:**

This general guide describes many of the points involved in writing a concise and proper lab report. The Formal Report must be in the style of a Journal of Organic Chemistry ("JOC") article - see the ACS style guide, and any issue of JOC for details. The report must be typewritten or prepared by word processor, and double spaced. In addition to the formal report, for each experiment you must turn in:

1) a completed report summary (yellow 2-sided sheet),
2) the yellow carbon copy pages from your lab notebook,
3) appropriate labeled and interpreted spectra, and
4) the reaction product(s) - see below.

As with a published paper, the formal lab report should be written so that someone with a basic understanding of organic chemistry will be able to understand your experimental procedure, results and conclusions, and be able to reproduce your experiment. In your discussion, pay particular attention to the key discussion points listed in the experimental handout provided. The written report must be original, in your own words, and properly referenced. Under no circumstances may any part of a report which has previously been turned in for a Chemistry 113B student be used in your report. All rules of academic integrity (see below) will be enforced.

All of the reports for this class be submitted both on paper and in electronic form to an online monitoring program (turnitin.com) by the deadline in the schedule. Reports will not be graded until both forms are submitted. Turnitin.com will compare your report to a database of similar reports and will provide a % overlap with reports in the database. It will "flag" if a report has significant amount of correlation with an existing report. For this reason, your report MUST BE WRITTEN IN YOUR OWN WORDS. A report with excessive amount of overlap will receive a grade of "0" (zero).

Please turn in your printed report in a folder, with each section (1, 2, 3 and 4) kept separate. I will provide the folder. You may staple or paper clip the pages within each section - please don't staple all your pages into one large document. Put your name on at least the first page of each section.

**Products:**

Where requested (dimedone experiment only), your products should be submitted in clean vials that have labels with the following information:

- Your name
- Name of Compound
- Weight (in g)
- Mp or Bp (as measured by you)

Depending on the product, these will be graded on the basis of one or more of the following criteria: yield, melting / boiling point, appearance. Products must be turned in at the same time as your report.
SAFETY

Before beginning any lab work, the following items must be completed:

1) Attend the Safety Lecture
2) Read and sign the statement on Chemical Safety for Chemistry Labs
   http://www.sjsu.edu/chemistry/docs/Safety_Sheet_I1c.pdf
3) View the Chemistry Safety film and sign the viewing voucher
4) Take the Lab Safety Quiz and obtain a score of 80% or better; retake the quiz
   if score is <80%.

All of the above conditions are required, and must be completed before you will be
allowed to work in the lab!

In addition to the points covered above, the following rules are emphasized in this
lab:

1. **AS SOON AS ONE PERSON BEGINS WORK IN THE LAB, YOU MUST
   ALWAYS WEAR SAFETY GOGGLES, EVEN IF YOU ARE NOT DOING ANY
   WORK YOURSELF!!!** (over your eyes, not on your forehead!) If you see a fellow
   student not wearing eye protection, you are obligated to remind them to protect their eyes.
2. Be aware that we will be using some flammable solvents, do not have any
   flames when you (or someone else in the room) are handling these
3. Similarly, treat all acids, bases, and reagents as potential hazards. Avoid skin
   contact with all of these, and treat any contact immediately. If you have a spill, never
   leave it unattended (let the instructor know).
4. Dispose of all glassware in the special bins, not in the trash cans! This includes
   broken glass, as well as expendable items such as pipettes and melting point capillaries.
5. The texts have sidebars or highlighted sections outlining special safety
   precautions - **always** enter these into your procedure section in your notebook (another
   reason to read ahead!)
6. You are absolutely required to follow any instructions provided by the
   instructor related to procedures and/or safety. Failure to do so will result in your grade or
   result in immediate disenrollment from this class (see statement below).
7. Everyone working in the lab is expected to conduct yourself in a professional
   manner; no horseplay or unsafe actions are allowed.
8. If you are not sure, ask!!

Failure to comply with proper procedures and prescribed safety cautions shall subject
the student to disciplinary action. 1) Any student who engages in unauthorized
experimentation, or who seriously disregards safety, thereby endangering self or others
shall be withdrawn immediately from the class with a grade of F. 2) Any student who
shows persistent disregard for safety may have his/her grade lowered, and may risk being
withdrawn with a final grade of F.”

| Special rules of safety and conduct apply when using the Varian Mercury 300 NMR and the HP MS and other instruments. These will be provided by the instructor. |
With preparation and organization, it is possible to complete all of your lab work during the scheduled lab period. In general, no lab work will be permitted outside of the scheduled lab times. Usually, the only situation where this may be allowed is in cases of illness and for which you provide verification by your doctor (see makeup policy above). However, if you miss more than a few lab periods during the semester, it may be difficult to complete the course. In any case, under NO circumstances are you to perform any laboratory work for 113B outside of the scheduled lab time without my written permission. Any student found performing unauthorized lab work for 113B may be disenrolled from the class.

Visitors: No visitors are allowed in the lab at any time. If someone is waiting for you, they must wait outside the lab.

Cell Phone/computer usage: Cell phones may not be used in the lab, they must be turned off and put away. Computers/tablets may only be used for purposes related to Chem 114. While working in the lab, distractions while working must be kept to a minimum - this includes music and videos.

Chemical Safety (CHEM 120S)
Chemistry 120S (Chemical Safety) is a required course for all chemistry majors and minors, and a prerequisite for all students involved in Chemistry 180 or 298 research courses.

Academic Integrity:

No form of cheating, copying, or other unfair advantage will be tolerated, and will be dealt with severely. A first infraction will result in “0 points” for that experiment or exam. A second will result in an automatic grade of "F" for the course. The underlying principle will be fairness to all students in the course. In particular, copying or plagiarism (the excessive use of someone else's words, even if acknowledged, see the section from the Academic Senate below) is considered a serious offense, especially with regard to the formal lab reports. Note that simply "re-ordering" words from another source does not constitute an original paper. You must use your own words and analysis in all reports for this course.

Additionally, when you work on and turn in a report, it is expected that the work is your own only. While you may get general advice from your classmates and faculty members, you may not ask others to analyze your data for you. This includes faculty members at SJSU or other colleges/universities, trained professionals in the field, or any commercial services.

From the Office of Student Conduct and Ethical Development: “Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University’s Academic integrity Policy requires you to be honest in your academic course work. Faculty are required to report all infractions to the Office of Student Conduct and Ethical Development. The policy on academic integrity can be found here:
http://www.sjsu.edu/studentconduct/Students/Student_Academic_Integrity_Process/
1.2 PLAGIARISM:

At SJSU plagiarism is the act of representing the work of another as one's own (without giving appropriate credit) regardless of how that work was obtained, and submitting it to fulfill academic requirements. Plagiarism at SJSU includes but is not limited to:

1.2.1 The act of incorporating the ideas, words, sentences, paragraphs, or parts thereof, or the specific substance of another's work, without giving appropriate credit, and representing the product as one's own work; and

1.2.2 Representing another's artistic/scholarly works such as musical compositions, computer programs, photographs, paintings, drawings, sculptures or similar works as one's own.

BE SURE YOU UNDERSTAND WHAT PLAGIARISM MEANS. IF NOT, ASK!!

University Policies

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latetransfers/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructor’s permission to record the course.

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”
Academic integrity

Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu/senate/docs/S07-2.pdf requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU’s Academic Integrity Policy S07-2 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/drc/ to establish a record of their disability.

• Emergencies and Building Evacuations

If you hear a continuously sounding alarm, or are told to evacuate the building by an Emergency Coordinator, walk quickly to the nearest exit (out the door and turn left to exit the Science Building). Take your personal belongings as you may not be allowed to return. Follow the instructions of the Emergency Coordinators. Be quiet so you can hear instructions. Once outside, move away from the building. Do not return to the building unless the Police or the Emergency Coordinator announces that this is permissible.

Following are resources that are available to all students. They may apply to this course as well as other courses you are taking.

Student Technology Resources

Computer labs for student use are available in the Academic Success Center at http://www.sjsu.edu/at/asc/ located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library.

A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.
SJSU Peer Connections

Peer Connections, a campus-wide resource for mentoring and tutoring, strives to inspire students to develop their potential as independent learners while they learn to successfully navigate through their university experience. You are encouraged to take advantage of their services which include course-content based tutoring, enhanced study and time management skills, more effective critical thinking strategies, decision making and problem-solving abilities, and campus resource referrals.

In addition to offering small group, individual, and drop-in tutoring for a number of undergraduate courses, consultation with mentors is available on a drop-in or by appointment basis. Workshops are offered on a wide variety of topics including preparing for the Writing Skills Test (WST), improving your learning and memory, alleviating procrastination, surviving your first semester at SJSU, and other related topics. A computer lab and study space are also available for student use in Room 600 of Student Services Center (SSC).

Peer Connections is located in three locations: SSC, Room 600 (10th Street Garage on the corner of 10th and San Fernando Street), at the 1st floor entrance of Clark Hall, and in the Living Learning Center (LLC) in Campus Village Housing Building B. Visit Peer Connections website at http://peerconnections.sjsu.edu for more information.

SJSU Writing Center

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the Writing Center website at http://www.sjsu.edu/writingcenter. For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to scan this code.)

SJSU Counseling Services

The SJSU Counseling Services is located on the corner of 7th Street and San Fernando Street, in Room 201, Administration Building. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling Services website at http://www.sjsu.edu/counseling.
Chemistry 113B  Organic Chemistry Laboratory (Sec X)  
Fall 2013

NOTE: this is a tentative schedule for the semester. Any changes will be announced in class in advance.

<table>
<thead>
<tr>
<th>Course Schedule</th>
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<tbody>
<tr>
<td><strong>Week</strong></td>
</tr>
<tr>
<td>1</td>
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<td>2</td>
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</tbody>
</table>
| 3 | 9/4 | Begin Exp 1 Stilbene  
No class 9/2 |
| 4 | 9/9 & 11 | Continue Exp 1 stilbene |
| 5 | 9/16 & 18 | Continue Exp 1 stilbene  
9/16 @ 2:30 Exp Zero report due and lab quiz  
9/18 @ 1:30 Spectroscopy Quiz 1 |
| 6 | 9/23 & 25 | Continue Exp 1 stilbene |
| 7 | 9/30 & 10/2 | 10/2 Begin Exp 2 menthol |
| 8 | 10/7 & 9 | Continue Exp 2 menthol  
10/9 @1:30  Spectroscopy Quiz 2  
10/9 @ 2:30 Exp 1 report due and lab quiz |
| 9 | 10/14 & 16 | Continue Exp 2 menthol |
| 10 | 10/21 & 23 | Begin Exp 3 ester |
| 11 | 10/28 & 30 | Continue Exp 3 ester  
10/30 @1:30 Spectroscopy Quiz 3 |
| 12 | 11/4 & 6 | Continue Exp 3 ester  
11/6 @ 2:30 Exp 2 report due and lab quiz |
| 13 | 11/13 (11/11/ no class) | 11/13 Begin Exp 4 dimedone  
11/13 @1:30 Spectroscopy Quiz 4 |
| 14 | 11/18 & 20 | Continue Exp 4 dimedone  
11/20 @ 2:30 Exp 3 report due and lab quiz |
<table>
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<tr>
<th></th>
<th>Date</th>
<th>Activity</th>
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</table>
| 15| 11/25 & 27 | Continue Exp 4 dimedone  
11/27 @ 1:30 Spectroscopy Quiz 5                                         |
| 16| 12/2 & 4   | Continue Exp 4 dimedone  
12/4 @ 1:30 Spectroscopy Quiz 6  
12/4 @ 2:30 Exp 4 report due and lab quiz                                |
| 17| 12/9       | check out no lab work; Last Day of Classes                               |
| Final Exam | 12/11       | 12:15 to 2:30pm in Science 139 (or designated room TBA)                 |