Chemistry 24 Syllabus - Dr. Kline - Spring 2019

Lab: Tu 2-7:05 pm or Th 5:30-10:35 pm; Sci 305
Office Hours
MW 4:45-6 pm; Tu 1:15-1:45 pm; Th 4-5 pm or by appointment; also online via Discussion area of Canvas (will usually get response within 24-36 hours)

Web Site: homepage.smc.edu/kline_peggy/

Dr. Kline Contact Information
• Office: Sci 272
• E-mail: kline_peggy@gapps.smc.edu; kline_peggy@smc.edu (the most efficient way to contact this instructor)
• Phone: 310-434-4745

Grading

<table>
<thead>
<tr>
<th>Required Activity</th>
<th>% of Course Grade</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests</td>
<td>50%</td>
<td>Three at forty points each; none dropped.</td>
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<tr>
<td>Lab Reports</td>
<td>45%</td>
<td>Best 8/9 regular lab reports at ten points each (lowest dropped). Also general and carbohydrate unknown lab reports at twenty and ten points each, respectively; neither dropped.</td>
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<tr>
<td>Lab Citizenship</td>
<td>5%</td>
<td>See information below.</td>
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</tbody>
</table>

Grade Standards - based on overall weighted percentage

A ≥ 90.00 %
B ≥ 80.00 %
C ≥ 65.00 %
D ≥ 50.00 %
F < 50.00 %

Course Materials and Resources

Books and Supplies
• Techniques Book - Techniques in Organic Chemistry, 4th ed., by Mohrig, Hammond, Schatz, and Morrill - required
• Lab Notebook with NCR or Carbon pages - required; the one sold in the SMC Bookstore on the shelves with the course textbooks is highly recommended. You need to be able to make a copy of your work during lab.
• Locker Card

PPE
• Lab Goggles (ANSI Z87.1)
• Nitrile or Neoprene Gloves
• Blue Flame-Resistant Lab Coat (Arc Rating ATPV 7.7cal/cm²)

Available via Internet
• Class Web Page (http://homepage.smc.edu/kline_peggy/chemistry-24-organic)
• Class Bulletin Board - eCompanion
• Mohrig Website: http://www.macmillanhighered.com/Catalog/studentresources/mohrig4e#
• Turnitin.com - submit lab reports electronically
• Lab Notebooks and Reports handout (http://homepage.smc.edu/kline_peggy/chem-21-lab/lab-notebooks-and-reports.html) - you are responsible for this content.

Students who are concurrently enrolled in Chem 22 and Chem 24 must remain enrolled in Chem 22 in order to continue enrollment in Chem 24. Exception - students who are enrolled and participating substantively in Chem 22 as of the end of the eleventh week(*) of a regular semester may be permitted to drop Chem 22 while remaining in Chem 24 after consultation with the instructors of both courses and the department chair. (*) or a pro rata time in a short session.
### General Information

- **Course material** will be posted on or linked from the class web site: http://homepage.smc.edu/kline_peggy/chem-24/. The instructor will send out communications to students using their official SMC email addresses and/or Canvas so make sure you check the email addresses associated with both of those. You are responsible for knowing about information sent to your official SMC address and via Canvas.
- **Contacting the instructor.** Use the Discussion area of Canvas to ask course-related (content and protocols) questions. Use email only for personal questions. Include the course name as the subject in any email not sent via Canvas to help keep it from getting trapped in the spam filter.
- **Office hours.** These are for you. If there are already students in the office, please come in and join us. I take questions on a rotating basis if more than one student is in the office. If I seem to be busy with something else when you come by during office hours that’s just because no one is there yet and I’m looking for something else to do. Interrupt me!
- **Tutoring.** The Science Learning Resource Center (Sci 245, http://www.smc.edu/AcademicPrograms/Tutoring/Pages/Science-LRC.aspx, provides free tutoring for SMC students and other resources..

- **College Dates and Deadlines.** See the SMC Dates and Deadlines web page for enrollment and payment deadlines and Corsair Connect for individual course withdrawal deadlines. The instructor reserves the right to drop any student who misses any class meetings during the first week. The instructor will probably drop students who miss a test without notification or appear to vanish; however, clerical errors do occur. If you want to be sure you are dropped, do it yourself. Aside from the circumstances under which you may be dropped by the instructor, it is nevertheless your responsibility as a student to withdraw from class if you do not intend to complete it. Students must not expect faculty to initiate withdrawal procedures for them. If you wish to drop this class, you may do so through Corsair Connect. Students may process a drop for themselves through 75% of the class, which is through the 12th week in a regular semester. Data regarding the withdrawal parameters for each class are provided within each student’s individual Corsair Connect account.

### Accessibility and Accommodations

- **This course is designed to be welcoming to, accessible to, and usable by everyone, including students who are English-language learners, have a variety of learning styles, have disabilities, or are new to online learning. Be sure to let me know immediately if you encounter a required element or resource in the course that is not accessible to you. Also, let me know of changes I can make to the course so that it is more welcoming to, accessible to, or usable by students who take this course in the future.**
- **SMC accommodates students with disabilities. If you qualify for any special accommodations due to a disability, you must officially process your request through the Disabled Students Programs and Services (DSPS) office. Instructor must receive Testing Accommodation Authorization Form before the first anticipated accommodation and with sufficient notice to provide materials to DSPS. No retroactive accommodations will be provided. The student is solely responsible for securing any provisions to which they may be entitled. Scheduling of accommodated exams must be made through DSPS. Students must provide the instructor with the Testing Accommodation Appointment form before each test or quiz for which they plan to use DSPS and not change their mind. Be cognizant of DSPS hours. The DSPS office is located in the Admissions/Student Services Complex, Room 101, and the phone numbers are (310) 434-4265 and (310) 434-4273 (TDD). If you believe you have a learning disability that has not yet been documented, please make an appointment at the DSPS office.**
- **Religious Observance Absences.** Students must let the instructor know by email no later than the date given on the course Schedule of any planned absence due to a religious holiday. There is no guaranteed accommodation for notifications provided after the deadline. SMC Academic Regulation 5530 states: “It is the college practice that students may be required to make-up missed work from absences due to the observance of a religious holiday, but they cannot be penalized for such absences. This practice applies to any work affecting a student’s grade.” This course will avoid scheduling tests and quizzes on religious holidays that commonly affect students and, whenever possible, will schedule labs that can easily be rescheduled or done on a student’s own time on religious holidays that affect large numbers of students. Students must adhere to due dates, even if the fall on a day of religious observance, even if that means turning something in early. Consult with the instructor if notebook pages are due on a day of religious observance and turning them in before or on the due date presents undue hardship..
### Class Guidelines, Lab Citizenship, and Academic Honesty

- **Successful completion** of this course will require full participation in all class activities. Punctuality is critical as well—plan to arrive on time each and every class period. Students who arrive late for lab and miss a portion of the pre-lab lecture may not be permitted to do that day’s lab. Students are responsible for knowing what happens in class, including schedule changes, material not in the book, information about what’s going to be on the next test and so on. It is a good idea to have the names and contact information for a few students whom you can contact if you miss class.
- **Electronic devices.** Please adjust cell phones, laptops, tablets, etc. so they do not make noise and/or disrupt class members; the instructor reserves the right to confiscate such devices that do make noise and/or to evict students who are not using them appropriately during class time.
- **No eating, gum chewing, or drinking** is permitted in classrooms or labs; no food or drink is permitted unless it’s sealed so that it absolutely cannot spill. Water is allowed.
- **Missed labs.** There will be no make-up labs, unless you arrange to do the lab during another lab time when that section is doing the experiment. If you miss one lab, it will be the one dropped. If you miss more than one lab, you will forfeit the points. Students who must miss their regularly-scheduled lab time due to a day of religious observance may not be penalized; however, they must make a reasonable attempt to attend another session and/or complete the lab report. Students will not get credit for writing a lab report for a lab they did not attend.
- **Students who miss more than two labs** will not receive a passing grade in the course except in the case of exceptional circumstances.
- **Lab Citizenship.** Students are responsible for keeping the lab neat. Each student will be assigned one clean-up day during the semester. Any chemical samples kept at the end of the lab period must be labeled with the student’s and instructor’s name, date, and identity of substance(s) present. Dispose of unknowns in the appropriate waste container, clean the vial in which they came, and return the empty clean vial to the instructor. There are ten course points for Lab Citizenship. Loss of points may result from leaving your area a mess, not putting lids on bottles, spilling material on balances, not cleaning up on your assigned day, and other infractions. Note that the entire class may be penalized for certain items if they cannot be attributed to specific students.
- **The Academic Honesty Policy of Santa Monica College** will be strictly enforced with respect to labs, lab reports, and lab tests. Acts of academic dishonesty including, but not limited to, plagiarism, providing test/quiz answers to another student, and copying from another student can result in a failing grade for the assignment or the course. Plagiarism consists of presenting the words of another person as your own and includes “recycling” written work from other students and the Internet. Both the provider and the recipient of the information will be penalized. In addition, lying, manipulative or disruptive behavior will not be tolerated. More information on SMC policies is available on the website for The Office of Student Judicial Affairs. Students need to be familiar with the SMC Code of Academic Conduct.

### Lab Safety

- Chemical splash goggles must be worn by all students whenever they, or anyone else, are working with reagents in the laboratory. An extremely limited supply of goggles may be available in the lab for students to borrow. If you do not have a pair of appropriate goggles to wear for lab and none are available in the lab, you will have two options—go buy some or don’t work in lab that day.
- Students must supply nitrile or neoprene gloves for lab. Gloves must be removed and placed in the glove waste container when contaminated or any time you leave the lab.
- Students in Chem 21 and Chem 24 must wear a blue flame-resistant lab coat whenever anyone in the room is conducting an experiment. If a student forgets his/her lab coat, he or she may not remain in the lab without it. A limited supply of lab coats is available to rent from the stockroom.
- A link to the SMC Safety Rules, PPE Information, and Emergency Information is on the course website.
- All students must sign a statement indicating that they are familiar with the Safety, PPE, and Emergency information before being allowed to work in the lab.
- Clean and organized individual and community lab space is critical for everyone’s safety during lab. Please see the comments under Lab Citizenship in the box above this one.
Lab Preparation, Notebooks, and Reports
- Refer to the online Lab Notebooks and Reports handout for more detailed information. Here are some highlights.
  - Each lab has a webpage, linked from the main Chem 24 webpage via a drop-down menu. This page has critical information about preparing for (including notebook preparation) and executing each lab and writing its report.
  - Notebooks You must write in pen in a blank, bound laboratory notebook with built-in carbon or carbonless pages. Notebooks will be graded formally via submitted notebook pages for each experiment, but the instructor reserves the right to collect notebooks at any time or look at notebooks at any point during lab periods and grade them.
  - Lab Reports The lab report for each experiment consists of a typed portion (submitted via Turnitin) and the notebook pages for that experiment submitted as hard copies. The due date for the typed portion and the final set of notebook pages is usually the lab following the one when the experiment is completed. Late labs will be penalized at the rate of -2 points per commenced week, with no labs being accepted after the start of the third commenced week.
  - Turnitin. This course will require electronic submission of written assignments through Turnitin (http://www.turnitin.com) via Canvas. Turnitin’s OriginalityCheck conducts textual similarity reviews of submitted papers. When papers are submitted to Turnitin, the service may retain a copy of the submitted work in the Turnitin database for the sole purpose of detecting plagiarism in future submitted works. Students retain copyright on their original course work. Please note that Turnitin does not accuse you of plagiarism; it is only identifying similarity to content in its database, and you or I will determine whether you used source material accurately and ethically.
  - Requests for lab report regrading must be submitted in writing or via email to the instructor no later than one week being returned to students.

Lab Tests
- There are three lab exams, each worth forty points. They will be given during the lab time and will take 60-90 minutes.
- Topics for lab exam questions include questions answered for the lab reports, assigned reading, pre-lab lectures, and the experience of performing and writing up the labs. The labs included are each test are noted in the course schedule.
- There will be no makeup tests. If you miss a test for a legitimate, documented reason, with the permission of the instructor, you average on the other two tests will be used in lieu of the missed test score.
- Lab tests are closed book and closed notebook.
- “Graphing” calculators are permitted during tests for which calculators are permitted until the first occurrence of one being used improperly; from that point on, they will not be permitted for any student in any class.
- No cell phones, dictionaries, or translators are allowed during quizzes or tests.
- Re-grading. Tests may be submitted for re-grading (or re-adding) within one week of their initial return to students. Please note that the instructor reserves the right to re-grade the entire test. Answers that look as if they could have been changed after they were graded will not be considered for re-grading.

Official Course Information
Link to official course outline - http://www.curricunet.com/SantaMonica/reports/course_outline_html.cfm?courses_id=242

Catalogue Description
This course is the second semester of organic chemistry laboratory. The laboratory work involves synthesis, structure determination, reaction mechanisms, and qualitative analysis. The lectures will discuss the theory and techniques that relate to the experiments that are performed, including NMR, IR, organic qualitative analysis, and various forms of chromatography. A special emphasis will be placed on FT-NMR utilizing SMC’s 350 MHz spectrometer. Chem 21, 22, and 24 constitute two semesters of organic chemistry with two semesters of laboratory. Prerequisite: Chemistry 21 (Organic Chemistry I with Lab) with a grade of C or better. It is imperative that students have previously taken an Organic Chemistry Lab.

Content
Preparation of n-Butyl Benzoate using a Phase Transfer Catalyst; Electrophilic Aromatic Substitution Reaction; Synthesis of Para Red via a Diazonium Salt; Synthesis and Identification of an Ester from an Unknown Alcohol; Preparation of n-Butyl Benzoate using a Phase Transfer Catalyst; Preparation of 2,4-Dinitrophenylhydrazone using a Diazonium Salt; Preparation of a Diazonium Salt; Synthesis of a Diazonium Salt; Oxidation-Reduction Cycle of t-Butylcyclohexanol and t-Butylcyclohexanone; Aldol Condensation Reaction; Organic Qualitative Analysis; NMR Analysis of Products—including introduction to 2D NMR and determination of a stereoisomeric mixture through analysis of complex splitting patterns in proton NMR.

Student Learning Outcomes As assessed by questions on exams and/or observation of laboratory performance and/or evaluation of notebook data and lab reports. 1-The student will follow a logical process based on well-established scientific principles and demonstrate the ability to use the appropriate problem-solving techniques to solve a scientific problem such as the determination of the structure of a compound based on spectroscopy (IR, NMR, MS) and/or chemical evidence, or the prediction of a compound’s chemical and/or physical behavior based on the behaviors of similar compounds. 2-When conducting a laboratory experiment, the student will follow written procedures commonly used in the organic lab (such as thin-layer chromatography, recrystallization and reflux) accurately and safely. The student will maintain an accurate and organized lab notebook. When completing a lab report the student will apply the scientific method correctly by being able to state a hypothesis, take careful measurements, estimate uncertainties and draw appropriate conclusions based on gathered data and scientific principles. 3-The student will explain observable phenomena using appropriate scientific theories, such as explaining the likely meaning of a lower-than-expected melting point, correlating the color and visible spectrum of a molecule, or other observations made during lab experiments.

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