Yes, I know you are in this class because you have to be here, but why should you care about the class? Of course I would like you to enhance and deepen your understanding of chemistry. I also know that you are likely to forget most of the actual chemistry you learn within about five years after completing this class sequence. So the question becomes what do I hope you will carry with you throughout your life. I have designed specific aspects of the class around these skills that will benefit you in your future education, careers, and life in general.

• Critical thinking: the process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and evaluating information to reach an answer or conclusion (dictionary.com). This skill set is one of the most important aspects of your education. Even if you forget every single fact you learned in college, the ability to think critically in any situation is something you should strive to achieve and hold on to throughout your life.

• Evaluating evidence and assumptions. What evidence do you
have? Should any evidence be discounted? What can you conclude or not conclude with your this evidence? Learning to answer these questions will benefit you in future scientific endeavors and in making decisions about news articles, politics, and other aspects of life.

• **Thinking on your feet.** Even the most well-planned experiment can go wrong. When this happens, you should immediately begin assessing the situation and forming hypotheses (and tests for the hypotheses). This skill transfers beyond lab to daily life.

• **Communicating clearly and concisely.** One of the most frustrating parts of lab classes for students is writing a post-lab report or giving a presentation. While these are understandably challenging tasks, we have you do them for concrete reasons. Employers sight communication skills, both written and oral, as one of their top 10 desired skills in employees. No matter where you future takes you, the ability to communicate clearly will be essential. Additionally, the process of committing your thoughts to organized written or spoken word aids in the learning process.

• **General life skills.** As we move through the sequence of Chem 51L labs, we will begin to remove some of your supports one by one. For example, in Chem 51LB you will be told what data should be recorded for an experiment. By the time you reach Chem 51LC, you should be able to make these decisions for yourself. This parallels your progression from young adults into full adulthood. For those of you who are already full adults, this part should be easy!
Course Description

The aim of the Organic Chemistry Laboratory Series (Chem 51L) is to provide you with an opportunity to learn about the synthesis, separation, purification, and identification of organic compounds. This course consists of weekly laboratory sections containing experiments designed to help students develop the observational and critical thinking skills that are essential prerequisites for a successful career in science (or any professional field). We will expect you not only to perform the experiments in the laboratory, but also to think about the principles behind the experiments. Please note that 51LB is the first in a sequence of lab classes and builds upon concepts learned in 51A/B/C lecture. We will expect you to know and apply techniques and concepts from all prior chemistry lectures and labs. Detail regarding specific experiments can be found on the class website.

General Course Policies

Lab Absence Policy

If you must be absent from you lab section for a justifiable reason (and can provide evidence), you are allowed one, and only one, make-up lab maximum per quarter. If you miss an experiment, you must contact Dr. King immediately, regardless of any statements made by a TA. Make-up labs allowed for religious holidays do not count for the one make-up lab per quarter IF arrangements are made with Dr. King IN ADVANCE!

To request a make-up lab, email Dr. Link and include:

• Your name

• Your TA's name or lab section course code

• Times that you can attend another section (minimum 2 possible times)

Lab Lecture Participation Policy

Lab lectures are conducted in an interactive manner, and you will need to participate to benefit from class. Participation counts as approximately three percent of your overall lab grade. Sections offered in a face-to-face setting will use iClickers.

TIPS FOR SUCCESS

• Keep a calendar. Use your smartphone or computer and set reminder!

• Think through experiments. Always consider WHY for each step.

• Always check your results BEFORE you leave lab.

HIERARCHY OF QUESTION-ASKING

1. **Check to see if your question** is answered on the syllabus, on the class website, on Piazza, or on another class document.

2. **Ask a peer.** This can be done many ways, including by posting on Piazza. PLEASE check to see if your question has been answered already before posting!

3. **Ask a TA.** Details specific to your lab section should be asked directly to your TA. More general questions or content questions can be asked of any TA.

4. **Ask Dr. King.** There are MANY students but only one of me. I am happy to answer questions and help you learn, but please direct questions that can easily be answered by others to one of the three steps above. If you have a personal situation that needs my attention specifically, you can bypass the previous steps.

Class Website: sites.uci.edu/chem51labs
EXPECTATIONS

What We Expect From You

Be an active participant in your own learning.
Be responsible for paying attention to due dates.
Think through experiments before you get to lab.
Use your resources wisely (reading, handouts, pre-lab videos, technique videos, etc)
Ask questions when you don’t understand.
Follow all safety rules.
Conduct yourself honestly in all aspects of the class (see academic honesty policy).
Treat yourself, each other, and us with respect.

What You Can Expect From Us

Provide clear rules and expectations.
Treat all students honestly and fairly.
Support and facilitate your learning (but YOU still have to DO the learning).
Grade fairly and provide formative feedback as promptly as possible.
Treat you with respect.

Sections offered online meet at the time specified for the section using the online system Cisco WebEx. You may miss one lab lecture meeting with no grade penalty.

Incomplete Pre-Lab Policy

Pre-laboratory work is designed to ensure that you have thought through and understood the purpose of and procedures required for the experiment we will be conducting in the lab. Safety is a particular concern for us. For your education and your safety, you must complete all components of the pre-lab assignment before your lab period. Here are the rules.

• To be eligible to complete the experiment in the lab, you must complete all components of the pre-lab assignment. This includes pre-lab work in the ELN and Sapling Learning assignments.

• Sapling pre-lab assignments for an experiment open one week before that experiment. For example, a student with a Monday lab will have access to the Sapling pre-lab assignment the Monday before they perform that experiment. Unless otherwise stated by the instructor or the Head TA, for summer classes Sapling pre-lab assignments for an experiment are due one hour before the start of that experiment will be conducted (exception: week 1 due to late enrollments)

For your assignment to be considered “complete”, you will need to either answer each question correctly (you can try multiple times) or have given up on that question.

• If you choose not to complete ANY part of the pre-lab assignment (ELN or Sapling) then you will not be allowed to conduct experiment and will receive a zero for the experiment score. You will be allowed to complete the post-lab assignment with a point deduction. If you find yourself in this situation, consult your TA to determine how to proceed. Please note that there are no exceptions to this policy.

Late Work Policy

If you chose to submit your post-lab assignments after the due date determined by your TA, 10 points will be deducted from the assignment score for every 24-hour period after the due date that they are received by your TA.

Class Website: sites.uci.edu/chem51labs
**Academic Honesty Policy**

Academic honesty is a requirement for passing this class. While collaboration in lab is expected, written lab work is an individual effort. Copying from any portion of the written work from other students is not allowed and constitutes academic dishonesty. The turnitin.com service will be used to detect plagiarism in lab reports. Providing your work to another student who then copies your work is also considered a act of academic dishonesty on your part even if you did not intend for the other student to copy your work. It is ok to ask whether something you are considering doing would be considered dishonest conduct in advance. There is no penalty for asking. If you choose to commit an act of academic dishonesty, you will receive an F grade for the course, and a letter will be sent to your Dean to be placed in your permanent academic file. For more information on Academic Honesty, see the university’s policy at: [http://www.editor.uci.edu/catalogue/appx/appx.2.htm](http://www.editor.uci.edu/catalogue/appx/appx.2.htm)

**Lab Safety**

*Safety is extremely important in a laboratory settings, and safety rules will be strictly enforced!* Read the Safety Policies on the course website before your first lab section. This reading provides a solid foundation in lab safety. It is vitally important for you to read, understand, and abide by any safety concerns noted in experiment handouts. You will need to complete a safety quiz and sign a safety agreement on Sapling before working in lab. To participate in lab, follow all safety rules, wear safety equipment (goggles and lab apron) and wear proper clothing (NO shorts, miniskirts, or sleeveless tops; shoes must COMPLETELY cover feet) at all times. NO skin should be visible on your torso and lower body. If you choose not to follow safety rules, you will be required to leave your lab section for the experiment, and a you will have a zero score for the pre-lab, in-lab work and written discussion of the week’s experiment.

**GRADING**

(Tentative - May change.)

**Sapling Assignments**  
(pre-lab & beginning of term assignments.  
special spectroscopy assignment)

- 38 points total, 2-5 points per assignment  
- Additional 20 points for special spectroscopy assignment

**Lab Lecture Participation**

- 18 points (can miss 1 day with no point loss)

**Daily Experiment Score**

- 10-15 points per day
  - Includes ELN pre-lab, in-lab, TA points

**Post-Lab Assignments**

- 20 points in-lab spectroscopy assignment
- 40-45 points for scaffolds or reports for 1-week experiments
- 70 points for reports for multi-week project

**Lab Practical**

- In lab section, 205 points
### Massive Safety Violation Policy

If a massive safety violation occurs in a lab section, special sanctions apply. Massive safety violations include but are not limited to:

- Glass, needles, or other sharps in trash cans
- Chemicals poured in sinks or otherwise disposed of inappropriately
- Extensive glassware or equipment breakage

If the responsible party or parties within a lab section can be identified, they will lose all points associated with the experiment. If the responsible party or parties within a lab section cannot be identified, the mean for the entire lab section will be lowered by a letter grade. Details regarding this policy can be found on the class website.

While this policy may seem harsh, it is necessary to ensure that these extremely important safety rules are taken seriously.

### Email Etiquette

Dr. King will answer questions by email as often as possible, but due to the number of students in the class, please check this syllabus, the class website first to see if the answer to your question is readily available. There are only so many hours in a day, so it’s best for everyone if we are not answering questions for which you can easily find your own answers! When writing your email, remember, we are people too! Please use a salutation in your email (e.g. Hi, Dr King . . .) and include your name, student ID and lab section course code. You can generally expect a response in 24-48 hours. For the promptest possible response, include all relevant details in your original email. If you do not get a response within about 48 hours, it is possible that your email was not received or was just missed in a VERY full inbox. In this case, please send your email again.

### About Letter Grades

Letter grades are determined on a curve based on the mean and standard deviation for each section and the mean and standard deviation for the class as a whole. This means that the standard 90/80/70/60 percentage scale **DOES NOT** apply. The cutoff for an A might be above 90%, depending on the statistics for your section and the class. This method of determining letter grades is necessary to
account for grading differences amongst TAs. To give you a general sense of where you stand, the overall average for each section usually approximates a B- letter grade. Only final course grades have a corresponding letter. There are no letter grades for individual assignments.

**Obligatory Enrollment Information from the Chemistry Undergraduate Office**

**ENROLLMENT FOR CHEMISTRY COURSES SS16**

ADDS/DROPS: THE INSTRUCTOR DOES NOT SIGN ANY ADD OR DROP FORMS. Enrollment for Summer Session is handled through the Summer Session Office, either in person or via their website: (http://www.summer.uci.edu) order to add, drop, or change your class.

All Chemistry course enrollment questions will be handled at the Chemistry Undergraduate Program Office in NS2 1101 during the posted hours: M-F 9:00am - 3:30pm and closed 12-1pm; Email: undergrad@chem.ps.uci.edu; Phone: (949) 824-2895.

Last day to add, drop or change grade option without the Chem Undergraduate Office approval is Friday, AUGUST 5. The absolute deadline for any course changes is Friday, AUGUST 19. These deadlines will be strictly enforced for all students.

You are strongly encouraged to consult the Chemistry Undergraduate Office website at http://www.chem.uci.edu/undergrad. You will find the answers to your most Frequently Asked Questions on this site. Much of the course and procedural information is relevant for the summer session courses.

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**Class Website:** sites.uci.edu/chem51labs