Chemistry 241L Course Syllabus – Spring 2015

Laboratory in Separations and Analytical Characterization of Organic and Biological Compounds

Faculty Instructor: Dr. Kathleen Nevins  
Office: Morehead Labs Room 206  
Email: knevins@unc.edu

Lab Director: Dr. Nita Eskew  
Office: Kenan C748  
Email: neskew@email.unc.edu

TA OFFICE HOURS

• The TA office hours will be announced during the week of lab check-in. Office hours are held in Morehead Labs Room 408A.
• Do not wait until the night before or the day of your lab to contact your TA for help.
• If you email your TA, or the Dr. Nevins, please give at least 24 hours for an email back.

COURSE OBJECTIVES

• To provide students with the opportunity to learn a variety of chromatographic and spectroscopic techniques.
• To provide students with an opportunity to develop practical laboratory skills.
• To teach students how to make reliable and accurate observations and measurements.
• To teach students how to interpret and report experimental results in a scientific manner.
• To continue developing a student’s critical thinking and problem solving skills.

LAB CHECK-IN

• Lab check-in for Chemistry 241L will take place the week of January 12\textsuperscript{th}.
• Meet in Chapman Hall Room 125 on your scheduled lab day and time for check-in.
• Read the check-in information posted under Announcements on your lab sections Sakai site and make sure to follow the instructions so that you arrive prepared.
• Registered students who do not show up for their scheduled lab check-in will automatically be dropped from the lab.
• Every student must purchase a Spring 2015 Chemistry 241L Lab Manual (Course Pack Publishing, 2\textsuperscript{nd} Floor of Student Stores). The forms required to check-in are contained in the lab manual.

NOTE: Using an old lab manual or a lab manual other than the Spring 2015 manual will be treated as an Honor Code Violation.

COURSE PRE- AND COREQUISITES

• Prerequisites: Chemistry 101L and 102L.
• Pre- or Corequisites: Chemistry 241 or 241H.
TEXTBOOKS & EQUIPMENT

• Spring 2015 Chemistry 241L Lab Manual – Required. Purchase from UNC Student Stores, Course Pack Publishing. The forms required to check-in are contained in the lab manual and are required to be allowed to check into lab.


  NOTE: If you have previously taken the class and have since sold your textbook, there is a copy in the Chemistry Resource Center located in Kenan Labs Room C143.

• Laboratory notebook. Pages must be pre-numbered and it must have carbonless duplicate pages. You may use an old lab notebook if it meets the criteria listed here. Alpha Chi Sigma (AXS) chemistry fraternity will be selling lab notebooks outside of Morehead Labs 102 during the week of lab check-in for $12.00 (cash or check).

• Scientific calculator.

• Laptop computer.

• Lab **goggles** (not safety glasses).
  o If you forget your goggles you will have to go to Morehead Labs 102 and purchase a new pair, they will be charged to your student account.
  o If you have never had a chemistry lab at UNC you will receive a free pair the day of lab check-in. You will receive instructions during the lab check-in lecture.

• Lab Coat – Required
  o Part of the lab notebook royalties goes towards providing each student with a disposable lab coat at the beginning of each semester.
  o You may purchase a nicer lab coat from the bookstore if you choose. If you decide to use your own lab coat, the department **must** approve the type of lab coat before the start of labs. At the end of the semester the royalty for a disposable lab coat will be used to clean your lab coat.
  o Lab coats must stay in the lab room, they may not be taken with you when you leave lab.

STUDENT LAPTOP COMPUTERS

• There are a number of experiments you perform in this laboratory course that require you to have your laptop. At the start of each experiment, the lab manual will state whether your laptop will be required or not for that experiment.

• Every student is required to bring their laptop computer when instructed, regardless of whether you will be working with a partner or in groups.

• If you forget to bring your laptop to lab you will not be allowed to perform that days experiment. We will allow you to make up the lab but we will penalize you 10 points for not coming to lab prepared.
• It is each student’s responsibility to make sure his or her laptop is working properly. If you are having problems with your laptop you must resolve them before your scheduled lab, otherwise you will need to borrow a laptop from a friend.

SAKAI
• The 241L syllabus, software, announcements, grades and other important lab information will be available on Sakai (https://sakai.unc.edu).
• Lab reports are submitted through the “Assignment” feature on Sakai so it is important that you have access to the Sakai site for your lab section.
• If you cannot login to Sakai, please email Dr. Nevins (knevins@unc.edu)

ATTENDANCE & LAB MAKE-UP POLICY
• Read the section titled “Attendance Policy and Lab Absences” on pp. 15-16 in the Chemistry 241L lab manual. This section contains the lab policy for how to obtain an excused absence and how to make up missed lab work in the case of an excused absence.

  o Briefly:

GRADING AND GRADING POLICIES
The points available in this class will be assigned in the following manner:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Pre-Lab Assignments (5 points each)</td>
<td>40</td>
</tr>
<tr>
<td>8 Quizzes (5 points each)</td>
<td>40</td>
</tr>
<tr>
<td>Safety Quiz – Day of check-in:</td>
<td></td>
</tr>
<tr>
<td>9 Graded Lab Notebooks (10 points each; Includes Experiment 0):</td>
<td>90</td>
</tr>
<tr>
<td>Lab Reports</td>
<td></td>
</tr>
<tr>
<td>Experiments 0 and 7 (Worksheets; 100 points each)</td>
<td>200</td>
</tr>
<tr>
<td>Experiments 2, 3, 4, 5, &amp; 6 (100 points each)</td>
<td>500</td>
</tr>
<tr>
<td>Experiment 1 (2 Week Lab)</td>
<td>200</td>
</tr>
<tr>
<td>Lab Performance (10 points/lab):</td>
<td>80</td>
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<tr>
<td>Lab Final:</td>
<td>150</td>
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<tr>
<td>Total:</td>
<td>1300 points</td>
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• Your TA will grade all your reports and assignments throughout the semester. However, the lab instructor, not your TA, will determine the final lab grades.
• Because lab section averages range widely, section averages will be normalized to ensure consistency and to account for differences in grading across sections. You will be assigned a letter grade based on your standing in your given lab section and based on that sections class distribution.
• Each section may have different cutoffs due to variations of the sections average and distribution. Grade cutoffs are not based on straight percentages, but on each sections class distribution.
LAB REPORTS

• The criteria for how to write the formal and informal lab reports are provided in the *Introduction to Chemistry 241L* chapter of the lab manual (pp. 20-28).

• Lab reports are due **one week** after the scheduled completion of the experiment. For example, experiment 1 is a two-week experiment, so this lab report is due one week after the completion of the second week of experimental work.

• In many instances this semester you will work with a partner or as part of a group to carry out an experiment and acquire data collectively. However, there shall be no collaboration on the writing of lab reports. This includes working up data, answering experiment questions, and/or sharing plots. All the work within your report must be your own. If you are having difficulties writing your report or have questions, seek help only from your TA.

• Lab reports are submitted electronically from within Sakai. The instructions for uploading lab reports on Sakai are located on Sakai under the “Documents” tab in the left side navigation bar.

• It is the responsibility of the student to verify that their lab report was properly uploaded to Sakai and submitted by the scheduled deadline.

LATE LAB REPORTS

• Late lab reports must be emailed uploaded to Sakai within **48 hours of the assignment due date/time**. **DO NOT** email your report to your TA or Dr. Nevins, and **DO NOT** attempt to turn in a paper copy of your report.

• Lab reports turned in late will be penalized **10% per day**. Please note that this penalty is 20 points per day for the GC report because this is a 200-point report.

• Late lab reports must be uploaded to Sakai **no later than 48 hours past the scheduled due date**; lab reports received later than 48 hours with no extension will receive a zero.

PRE-LAB ASSIGNMENTS

• A pre-lab assignment will be due at the beginning of each lab period, with the exception of the week of lab check-in.

• Read the section titled “Pre-Lab Assignments” (pp. 19-20) in the *Introduction to Chemistry 241L* chapter of the lab manual. The specific criteria for how to complete the pre-lab assignments are provided on the pages within this section.

QUIZZES

• There will be a safety quiz given after the check-in lecture in lab to make sure that every student understands the lab safety policies. In order to receive your locker combination, your TA must verify that you have received a 100% on your safety quiz. If you have missed any questions, you will need to go back through the safety material in the check-in lecture and lab manual and correct your answers.
• A 10 min quiz will be taken on Sakai at the beginning of each lab period, with the exception of the week of lab check-in. The quiz will be under the tests and quizzes section and will close 10 minutes after the start of lab; therefore, if you are late to lab, you may miss the quiz.

• The lab quizzes will test whether you have adequately read and prepared for the scheduled experiment.

• Prepare for quizzes by carefully reading the scheduled experiment, paying attention to the goals of the lab, safety, pertinent calculations, sample preparation, data analysis, and experimental information.

LAB NOTEBOOKS

• Students must turn in the duplicate pages from their lab notebooks at the end of each lab period. If you leave lab without submitting your lab notebook pages, you will receive a zero for that experiments lab notebook grade.

• Read pp. 17-19 in the Introduction to Chemistry 241L chapter of the 241L lab manual. The specific requirements for how to maintain a lab notebook, as well as what should go into the lab notebook, are provided on these pages.

LAB PERFORMANCE

• At the end of each lab period, except the day of check-in, your TA will assign 10 lab performance points. The TA will grade you based on whether you worked safely in lab (e.g., do you wear your goggles or do you need constant reminder to put them on), did you follow the instructions provided in the lab manual, did you follow your TAs instructions, and did you perform the techniques shown to you properly.

• Lab performance points will be lost if you arrive late to lab, are unprepared for lab (ex. Not bringing your safety goggles, etc.), and for being disruptive to the class.

LAB FINAL

• The lab final is cumulative and is scheduled for the week of November 17th in Chapman Hall Room 125.

• The lab final will include definitions, glassware identification, equipment identification, instrumentation, data analysis, data interpretation, calculations, lab notebook questions, instrumental questions, questions regarding analytical methods used, experimental questions, theory, and lab safety.

• Prepare for the lab final by going back through your lab reports, experiments in the lab manual, the Introduction to Chemistry 241L chapter of the lab manual (safety items) and the sections of the lab techniques textbook (“Making the Connections”) that were assigned throughout the semester.

• You will need a programmable calculator, you will not need your laptop and you do not need a Scantron sheet.
HONOR CODE

The Department of Chemistry faculty adopted the following policy on September 9, 1977.

“Since all graded work (including homework to be collected, quizzes, papers, mid-term examinations, final examination, research proposals laboratory results and reports) may be used in the determination of academic progress, no collaboration on this work is permitted unless the instructor explicitly indicates that some specific degree of collaboration is allowed. This statement is not intended to discourage students from studying together or working together on assignments which are not to be collected.”

Additional information regarding the Honor Code at UNC-CH can be found at the following website: [http://www.unc.edu/depts/honor/](http://www.unc.edu/depts/honor/).

The following situations below will be treated as honor code violations based on the requirements specified within the syllabus and the Introductory Chapter of the Chemistry 241L lab manual, where the lab polices are discussed in more detail.

- Plagiarism. The ideas presented in your report must be your own. If you present someone else’s ideas or work (from books, old lab reports, the Web, the lab manual) as your own, this is plagiarism. You can present facts from an outside source, as long as you properly reference the source.

- Allowing students to use your work as their own. Do not allow your partner or other students to have access to your lab reports. You may share data if you collected the data together, but everything else (calculations, graphs, tables) must be done alone.

- Using old lab reports, even if you just want to glance over them, is an honor code violation.

- Do not rearrange a paragraph or some other piece of work that is not yours in the hope of disguising the work as your own.

- Unauthorized collaboration. If you need help you must talk with your TA. All lab reports must be written independently.

- Using an old lab manual from a previous semester.