

## Chemistry 241L Course Syllabus – Spring 2012

### Laboratory in Separations and Analytical Characterization of Organic and Biological Compounds

**Faculty Instructor:** Professor Tiani

**Office:** Kenan Labs Room B128

**Email:** [tiani@email.unc.edu](mailto:tiani@email.unc.edu)

**Lab Manager:** Dr. Reid Haslup

**Office:** Morehead Labs Room 208

**Email:** [reidhaslup@unc.edu](mailto:reidhaslup@unc.edu)

#### TA OFFICE HOURS

- The TA office hours will be announced during the week of lab check-in.
- Do not wait until the night before or the day of your lab to contact your TA for help.
- If you email your TA please give them time to email you back, at least 24 hours.
- The location of the TA office hours will be announced at lab check-in.

#### 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 students critical thinking and problem solving skills.

#### LAB CHECK-IN

- Lab check-in for Chemistry 241L will take place the week of January 23<sup>rd</sup>.
- Monday 1:00 pm, Tuesday 6:00 pm, Wednesday 1:00 pm and Thursday 6:00 pm labs will meet in Chapman 125 on their scheduled lab day and time. The Tuesday and Thursday 1:00 pm labs will meet in Morehead Labs Room 408a (Mel-Temp Room) on their scheduled lab day and time for lab check-in.
- Registered students who do not show up for their scheduled lab check-in will automatically be dropped from the lab.
- Every student must have a Spring 2012 Chemistry 241L Lab Manual (Course Pack Publishing, 2<sup>nd</sup> Floor of Student Stores). The forms required to check-in are contained in the lab manual and are required in order to check in.

## COURSE PRE- AND COREQUISITES

**Prerequisites:** Chemistry 101L and 102L.

**Pre- or Corequisites:** Chemistry 241 or 241H.

## TEXTBOOKS & EQUIPMENT

- Spring 2012 Chemistry 241L Lab Manual – **Required**. Purchase from UNC Student Stores, Course Pack Publishing. Every student must purchase a lab manual. The forms required to check-in are contained in the lab manual and are required to be allowed to check into lab.
- Padias, Anne B. *Making the Connections: A How-To Guide for Organic Chemistry Lab Techniques*; Hayden McNeil Publishing: Michigan, 2007. – **Required**
- Harris, D. C. *Quantitative Chemical Analysis*, 8<sup>th</sup> or 9<sup>th</sup> ed.; W.H. Freeman: New York, 2010. - **Lecture Text**.

**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 (AXE) chemistry fraternity will be selling lab notebooks outside of Morehead Labs 102 right after the lab check-in lectures for \$10.00 (cash or check).
- Scientific calculator.
- Laptop computer.
- Safety glasses. If you forget your safety glasses you will have to go to Morehead Labs 102 and purchase a new pair. 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. The lab program is working on offering a disposable lab coat that students can purchase the day of lab check-in and charge to their university account, this should be a less expensive option.
  - The lab coat requirement will be discussed in more depth during the lab check-in lecture.
  - 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 your responsibility to make sure your laptop is working properly. If you are having problems with your laptop you will need to resolve those problems 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. Tiani ([tiani@email.unc.edu](mailto:tiani@email.unc.edu)).

### ATTENDANCE & LAB MAKE-UP POLICY

- If you need to miss a lab and you have a valid excuse (illness, school function, etc.), you may email Dr. Haslup ([reidhaslup@unc.edu](mailto:reidhaslup@unc.edu)) and request an excused absence.
- You may not receive more than two excused absences (non-medical).
- Make up labs are held the Friday of the week following your missed lab from 1-4.

### GRADING AND GRADING POLICIES

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

8 Pre-Lab Assignments (5 points each):	40 points
8 Quizzes (5 points each):	40 points
9 Graded Lab Notebooks (10 points each):	90 points
Lab Reports	
Experiments 0, 2, 3, 4, 5, and 6 (100 points each)	600 points
Experiment 1	200 points
Experiment 7	75 points
Lab Performance (10 points/lab):	80 points
Lab Final:	150 points
<b>Total:</b>	<b>1275 points</b>

### 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. 15-24).
- Lab reports are due one week after the scheduled completion of the experiment. Experiment 1 is a two-week experiment so the lab report will be 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, carrying out the experiment and acquiring data collectively. However, there is no collaboration on the writing of lab reports, this includes working up the data, answering experiment questions, discussing your data, and constructing plots. All the work within your report must be your own.
- If you are having difficulties writing your report or have questions, seek help 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.

### **LATE LAB REPORTS**

- Late lab reports must be emailed to Dr. Tiani ([tiani@email.unc.edu](mailto:tiani@email.unc.edu)). DO NOT email your report to your TA, do not try to upload your report late and do not attempt to turn in a paper copy of your report.
- It is the responsibility of the student to verify that their lab report was properly uploaded to Sakai and submitted by the scheduled deadline.
- 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.

### **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. 14-15) 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**

- A 10 min quiz will be given at the beginning of each lab period, with the exception of the week of lab check-in.
- The purpose of the lab quizzes is to ensure that 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. 12-14 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. When your TA assigns performance points they are looking to see whether you worked safely in lab (e.g., do you wear your goggles or does your TA have to constantly remind you 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.
- You will lose lab performance points if you arrive late to lab; you arrive unprepared for lab, such as not bringing your laptop or safety glasses, for not wearing the correct clothing and footwear, and for being disruptive to the class.

## LAB FINAL

- The lab final is cumulative and is scheduled for the week of April 9<sup>th</sup>.
- 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, the experiments in the lab manual, the Introduction to Chemistry 241L chapter of the lab manual (safety items) and those sections of the lab techniques textbook (“Making the Connections”) that were assigned throughout the semester.
- An equation sheet will not be provided.
- You will need a programmable calculator.
- You will not need your laptop.
- 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/>