

## Chemistry 4010/6010 Laboratory Syllabus Spring 2017

---

**Instructor:** Professor Ning Fang

**Email:** nfang@gsu.edu

**Office:** NSC 248/249 or PSC 308 (Phone: 404-413-5595)

**Office Hours:** as needed, by appointment

**Lab hours/location:** Monday, 3:00 pm - 6:15 pm, NSC-242

### **Laboratory Attendance:**

Students are expected to attend all laboratory sessions. State law requires that you sign-in and sign-out for each laboratory session that you attend. Pre-lab lecture starts at 9am, and takes 10-20 min. Students who miss the lecture will not be allowed to perform the experiment that day.

### **Make-up Labs:**

Make-up labs are not allowed, unless you have a legitimate excuse for missing a lab. The student is required to obtain an approval from the instructor. The missed lab must be taken within one week of the scheduled lab date and prior to the final exams week. Students must make prior arrangement with the instructor who is going to give the make-up lab.

### **Laboratory Notebooks:**

Notebook is required for the laboratory sessions. The notebook will contain all of your notes, data, observations and calculations. For additional requirements please see the lab manual (pg. 3). You must turn in a complete laboratory notebook with your final laboratory report. Additionally, whenever you turn in a laboratory report, the corresponding section of your notebook must be complete. Instructors will on occasion spot check your notebook. The maximum grade for a completed notebook including notebook reports is 100 points.

### **Laboratory Reports:**

Criteria used in grading the Lab Reports are: (1) your understanding of the experiment as judged by your comments and answers to questions, (2) the quality of your data, (3) the completeness and accuracy of your data analysis (including error analysis), (4) the report's clarity, organization, and quality of presentation. Lab report format should follow ACS guidelines. Laboratory reports (100 points each) must be turned in on the due dates (see the Lab Schedule). Only GC Report 1 can be resubmitted with corrections for re-grading at a later date. However, report outlines, tables and figures can be submitted to your laboratory instructor one week in advance of the due date for helpful comments.

### **Late Assignments:**

Late assignments will be penalized 2 points each workday delay (max per week: 10 pts). After 2 weeks from the due date lab reports will not be accepted, and student will receive 0 points on that report.

### Schedule of Laboratory Sessions:

Day	Week #	Exercise	Report	Report Due
Jan 9	1	Check in	No report	
Jan 23	2	GC1 – Injection technique	No report	
Jan 30	3	GC2 – Qualitative analysis	Report #1	
Feb 6	4	GC3 – Quantitative analysis	Report #1	
Feb 13	5	GC4 - HETP	Notebook report	Report #1
Feb 20	6	GC5 – Kovat’s retention index	Report #2	
Feb 27	7	GC6 – Temperature programming	Report #2	
Mar 6	8	GC7 - Enthalpy	Report #2	
Mar 20	9	GC8 – Similar boiling points	Report #2	
Mar 27	10	TLC	Report #3	Report #2
Apr 3	11	HPLC1 – Aspirin (group A)	Report #4*	
Apr 10	12	HPLC1 – Aspirin (group B)	Report #4*	Report #3
Apr 17	13	HPLC2 – Benzene (group A, B)	Notebook report	
Apr 24	14	Check-out		

\* Formal Report#4 along with completed notebooks including notebook reports are due on the last day of classes for the class portion of 4010/6010

<sup>1)</sup> Digital data must be saved offsite, and be available upon demand by the instructor for full credit.

<sup>2)</sup> HPLC exercises need to be scheduled for smaller groups. Accordingly, the lab section will be divided into two. Sign-up sheets will be supplied by lab personnel. Each subgroup will have a week on – week off schedule. However, report #3 is due on April 10 (Week 12) no matter how the student is scheduled for the HPLC exercise.