

## Chem 101 Fall 2013 Lab Syllabus

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**class time:** CHEM 101L lab section **2819 M 1:30 pm to 4:20 pm**, section **0089 W 1:30 to 4:20pm**, section **3488 F 12:30 to 3:30 pm** The class will meet in **LSF L301** for a prelab lecture and then move into the lab in **MSB 316**

**office hours:** **8:30 am to 9:30 am MWF & 11:20 am – 11:50 am MW** & other times by appointment. (Please email me to make an appointment. If you need me, I will always find the time to meet with you.) I will also usually be available most days after the labs (4:20 pm – 5 pm MW).

Any last minute updates will be posted online at <http://JulietHahn.com> I may also email you updates to your official Francis Marion email address.

**For the Lab you will need:** **Textbook**, Francis Marion University **General Chemistry 101 Laboratory Manual** (7-13 Revision edited by T.W. Ragsdale) and **safety goggles** at McNair Science 307 **scientific calculator:** To perform calculations in this course, you will need an inexpensive “scientific calculator”. It does not need to be elaborate but should be able to express numbers in scientific notation (e.g.  $6.02 \times 10^{23}$ ) and must have log (and ln) functions. You can buy such a calculator for around \$10.00 at the local discount store. You should bring your calculator to each lab.

I am also teaching 2 of the lecture sections associated with this lab. **CHEM 101 Lecture section 0068 MWF 9:30 to 10:20 am** and **section 3101 MWF 10:20 – 11:20 am** in LSF L301.

Chemistry 101 is a 4 credit class. Your lecture grade makes up 75% of the class grade and **your lab grade is counted as 25% of the CHEM 101 class grade.**

**Grading:** Lab Grading will be based on the following.

13 labs (will be graded as if it is worth 10 pts per lab report)	lab report .....	75 %
(The first lab has a Safety Quiz which counts as one lab report.)		
lab final exam .....		25%

Lab Report Grade will consist of **3 points** (out of 10 pts for the entire lab report grade) for attendance at the beginning of lab (by my signature on your lab report form, and your signing out of the lab at the end of the lab (with time of sign out noted on attendance sheet). You are getting points for showing up and doing the lab.

**technique points:** Up to a maximum of **3 pts (from 10 pt lab report grade)** may be removed from your lab report grade for technique. Primarily this will be for anything which will endanger you or your colleagues working in the lab. **(-1 point)** for each incidence of not having your safety glasses on while anyone in the lab is doing any kind of chemical experiment **(Up to -3 points)** for a single incidence of you not following Dr. Hahn’s specific directions such as “Do not go near that open flame with that liter bottle of ether!!!!” Let’s say you go to the open flame with the open liter bottle of ether and set yourself and 2 of your neighboring colleagues on fire. You will have lost 3 points **and** may be scarred for life.

**NOTE:** By department policy, if you do not complete (or do not turn in any work) for **3** of the 12 labs this semester, you will **earn an F** on the entire class.

1. You will receive the lab report forms at your weekly lab prelab meeting. Reports can be turned in only for experiments actually performed by the student.

This means that if you turn in a lab report and the report form does not have my signature on it, and you did not sign out at the end of lab, it is possible that you will only lose **3 points** of a **10 point lab report** if I know that you were actually in lab and forgot to sign out and forgot to get my signature. **At my discretion, it could also mean that I opt not to accept your lab report at all because I know that you were not actually in the lab for which you turned in a lab report.**

2. Reports are due at the next lab class after the completion of the lab (during the prelab lecture in the first 15 minutes of the prelab lecture period) and points will be deducted for those turned in late at the rate of 10 % per business day. Reports turned in after 10 business days after the due date will receive a grade of 3/10 (3 pts for being in lab and signing in and signing out). For example, if the laboratory period is on Monday (9/16), the report is due in the first 15 minutes of the next Monday prelab (9/23). If you turn in the lab report on 9/23 M at 1:50 pm (5 minutes past deadline) , the report will be worth a maximum of 9 points. If you turn in the lab report on 10/9 W at 3 pm (10 business days from the deadline), the report will be worth **zero** points. (If you have my signature & you signed out you will still get 3 of 10 points for having been in lab and having done the experiment.)

3. **You will get to drop one lab (and only one lab).** The dropped lab can be your lowest grade lab or can be a zero for one missed lab. Labs not attended will count as zeroes. If you attended the lab and performed the experiment (as shown by signature on the lab attendance sheet & my signature on your lab report form, you will have earned a 3 of 10 for the lab. If you missed a lab and cannot show hardcopy documentation which supports a reason why you missed the lab, you will earn a zero on that lab. Valid excuses for missing a lab are: medical excuse, death in the immediate family, working on behalf of the university in an official capacity. It is always in your best interest to ask me if your excuse is valid rather than assuming that it is not.

**For students in my sections of the lab class, you may also make up your lab in any of my other lab sections (M 1:30 pm, W 1:30 pm or F 12:30 pm) with no documentation.** (If you need to make up a lab, please note the lab schedule. From 8/26M until 10/7 M Fall Break, the last lab of the week is Friday. From 10/9 W until 11/26T, the last lab of the week is Tuesday.

If you are unable to make up the lab in one of my other lab sections and must make up the lab in a lab taught by **another lab professor**, you **will need to provide hard copy documentation of the reason for your absence** to make up a lab.

4. Academic dishonesty on any lab will result in a grade of zero for that report. Repeated violations will result in dismissal from the university. An example is coming to lab with data already in data tables in your notebook.

5. Anytime a problem is worked, the answer alone is not sufficient, you must show the calculations. **Showing the calculations** does not mean just showing me all your additions and divisions. Showing calculations means: (a) you show the equation (b) then you show the equation with all of the numbers filled in and (c) then you show what your calculator spits out as the final number answer.

I do actually read your work in the calculations to grade your lab report.

## Laboratory Schedule:

The laboratory experiments Title (and number in the manual) to be completed during the semester are listed opposite the scheduled week. *Students should consult the laboratory schedule each week to be certain they are preparing for the proper experiment.*

Lab #	Date	Experiment Name	Manual Starting Page
1*	8/26 M – 8/30 F	Check-in, Safety Video, Math Practice	20
2	8/26M, 9/3T – 9/6 F	Measurements & Significant Figures: Density	24
3	9/9M – 9/13F	Chemical & Physical Changes	30
4	9/16M – 9/20 F	A Series of Chemical Changes	35
5	9/23M – 9/27F	Formula of a Metal Oxide	39
6	9/30M – 10/4F	Concentration: Molarity	43
7	10/9W – 10/15T	Conversion of a Carbonate to a Chloride	51
8	10/16W – 10/22T	Quantitative Measurement of Conductance	55
9	10/23W – 10/29T	Types of Chemical Reactions	60
10	10/30W – 11/5T	Gas Laws: Boyle's Law, Molar Mass of a Gas	65
11	11/6W-11/12T	Group and Periodic Relationships	71
12	11/13W – 11/19T	Molecular Structure	75
	11/20W – 11/26T	Laboratory Exams	counts for 25% of lab grade

The Lab Number is the Lab Number in the lab book. See **Page 1** of the Lab Manual to see page number and the length of the Lab Video.

9/2M **Labor Day** University Closed

10/7M, 10/8T **Fall Break** University Closed

11/27W, 11/28R, 11/29F **Thanksgiving** Break

**See Dr. Hahn immediately if you miss a lab or know that you will be missing a lab.** If your absence has a documented excuse acceptable to me, then I will substitute your missing grade with your average prorated for the class's average.

Example: (your missing grade lab 2) / (your average on labs) = (class average on lab 2) / (class average all labs)

**Notes:** The following should be noted concerning the laboratory period.

A. Some medical conditions make exposure to certain chemicals unwise. If you are currently under treatment by a health professional and/or you have a concern about possible exposure to chemicals in the laboratory required for this course, please discuss this matter with your physician.

B. The three-hour laboratory period will be divided into a one-hour recitation or problem-working session with the remaining two hours for performance of the assigned experiment. All experiments are expected to be done individually and independently unless otherwise specified by the instructor. However, you will find it useful to find other students to discuss your reports for different perspectives on questions, etc.

C. Video pre-labs have been prepared for most experiments. The videos are available in the Cauthen Media Center. Every student is required to view the prelab video before attending his or her scheduled laboratory period. Only minimal detailed laboratory instructions will be given at the laboratory period. The experimental procedure for each experiment is detailed in the laboratory manual. Please read the procedure in the lab manual before viewing the video. A picture ID card is required for using their headset. The time-length of each video is given in the *Lab Manual*. If you like, you can copy the pre-lab videos into your USB memory and view them whenever you want to view them. (I think viewing the videos will save you hours of lab performance time.)

D. Students are expected to be ON TIME for the laboratory period. ON TIME means to be in your seat when it is time to start the period. **If you come to lab (meaning the beginning of the prelab recitation period) 15 minutes after the start of the lab period, you will lose 3 points. (You may also set yourself on fire because you do not know the safety instructions discussed in the prelab lecture.)** It is possible that any student who misses the recitation period may be banned from performing the experiment during their scheduled laboratory period.

E. The laboratory attendance policy requires all laboratory periods to be attended and all required reports turned in prior to the final exam for the lecture. If the required laboratory reports are not turned in, a grade of F will be assigned ***FOR THE COURSE (meaning including the lecture)*** because all the required work for the course has not been completed.

**Only one missed laboratory period may be dropped during the semester.**

F. The departmental policy concerning eye protection in the laboratory is as follows:

For proper eye protection ALL students enrolled in chemical laboratory courses are REQUIRED to purchase and wear **chemical splash goggles** (NOT GLASSES) which meet departmental requirements for impact and splash protection. The goggles must be worn by everyone including those who normally wear glasses and those who wear contacts. Those students who wear contacts but do not have eyeglasses may wear contacts in the laboratory with a **label** on the goggles so indicating. These labels are available in the lab.

The ACS Committee on Professional Training specifies:

Anyone working or visiting in the lab must be wearing goggles, and consumption of food or drinks must not be permitted. A clean, uncluttered laboratory is more likely to encourage careful work. Laboratory Safety, 2012

G. All students must have on file in the department a signed statement agreeing to abide by all departmental safety regulations including clothing and to abide by the departmental eye-safety program. The Safety Agreement Form is found in the laboratory manual.

### **Computer Lab**

For your convenience we have a computer lab in LSF 310. This has twelve computers with Internet access, word processing, spreadsheet, molecular modeling and drawing and graphing programs. Several times during the semester you will be required to produce graphs, etc. from computers. **Have a memory “stick” available.** You may need to provide your own paper in order to use the Departmental laser printers in L310. Do not attempt to install any software on the computers or remove any from them. A table is also available for students studying together. We also have a Tutoring Center in MSB 315, also with computers, if you need help. Consult the posted schedules.

Please note: There are multiple sections of this General Chemistry I Lab Class. **Each Lab Professor has his own syllabus. Policies and rules for one section does not apply to the policies and rules for other sections.** If you follow the rules and policies for another section of the lab in this lab class, you may lose a lot of points.

Example: If your friend tells you that in my lab section you get the majority of your points for the lab notebook which is graded by undergraduate teaching assistants and turn in no lab reports for all of the labs, you will get a zero on every lab. I grade every lab report myself with no assistance from undergraduate teaching assistants, staff or other faculty. Please note that there are about 90 students in my three lab sections. Each of 12 week I am grading 90 x about 5 pages of bad handwriting lab report forms. By the end of the semester, I have read and graded 5,400 pages of bad handwriting lab report forms.

Example: Lets say that your friend (or even a tutor) tells you that there is a common multiple choice final exam for all of the lab sections and that the lab final exam is graded by a group of lab teachers and undergraduate teaching assistants. If you believe this and attend the final exam study session held by another professor, you will make a really bad grade on my lab final which is all essay and is graded by only me.

### Syllabus Agreement Form

I have read and understand the policies stated in the syllabus for Dr. Hahn's CHEM 101-L class for the Fall semester of 2013. All questions have been answered to my satisfaction. By signing this sheet I agree to abide by the policies stated therein.

Your signature \_\_\_\_\_

Print your name: \_\_\_\_\_

Date submitted: \_\_\_\_\_

Name of your **Lecture** Professor \_\_\_\_\_

I, Dr. Hahn, am your lab professor. I need the name of your Lecture Professor who will get your final lab grade at the end of the semester. I can tell you that as one of the Lecture Professors, it is not easy to gather together all of the grades from the 7 sections x ~ 60 lecture students = ~ 420 students without knowing who among the students is in my Lecture section from the 15 lab sections with multiple lab professors.