

Chem 102 Summer II 2014 Lab Syllabus

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class time: CHEM 102L lab section section 0014, **MW 1:00 pm to 4:30 pm** The class will meet in **LSF 301** for a prelab lecture and then move into the lab in **MSB 318**

office hours: **8:30 am to 10 am M,T,W** in my office **LSF 303H** & 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 before and after the lab for about 15 to 20 minutes in my office in **LSF 303H** or in the class or lab room **LSF301** or **MSB318**.

Any last minute updates will be posted online at <http://JulietHahn.com> (go to the "**General Chemistry Lecture & Lab Information**" blue hyperlink.) You may also get an email sent to your official FMU email address through BlackBoard.

For the Lab you will need: **Textbook**, Francis Marion University **General Chemistry 102 Laboratory Manual** (2014 Revision edited by T.W. Ragsdale) and **safety goggles** available 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. 6.02×10^{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.

Chemistry 102 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 102 class grade**. I will post all your grades outside of LSF 301 all semester long so you will know exactly what portion of your CHEM 102 grade was from the lab.

Grading: Lab Grading will be based on the following.

lab reports grade 75% of your lab grade: 9 lab report grades (will be graded as if it is worth 10 pts per lab report) The first lab has a Safety Quiz which counts as one lab report. The first and second Lab meeting is the Normality of Acid which is done in two lab meetings. The Normality Lab will count as one lab. If you miss the first lab class because you registered late or you did not know that we were meeting for lab the first day of lab meeting, you will be allowed to join an existing group to complete the first lab. This semester, you will be allowed **to drop one and only one lab**. The dropped lab can be for an unexcused absence or for your lowest lab report grade if you attend all labs. There will be no make up lab because you get to drop one unexcused absence lab. **Lab reports will be due in the first 15 minutes of the next lab meeting after the completion of the lab.**

lab mini-final exams 25% your final lab grade: 8 mini final grades
There will be a lab mini-final exam after you turn in every lab report. This is not a "prelab" type exam. The lab mini-final will have questions after the completion of the lab and lab report. The lab mini-final exam will consist of one or at most two questions and should take about 5 to 10 minutes to complete. All the lab mini-finals added together will make up 25 % of your grade. You will be allowed to drop your lowest one and only one lab mini-final. The dropped mini final can be for a lab mini-final which you missed without an excuse.

In this lab class there are no lab notebook points. You will get no points for doing the online prelab quizzes.

Lab Report Grade will consist of **3 points** (out of 10 pts for the entire lab report grade, 30% of the lab report grade) for attendance. Attendance will be defined as (a) attendance at the beginning of the lab class – defined as my signature on your lab report form at the beginning of the lab (b) attendance at the end of the lab: defined as your signing out of the lab at the end of the lab (with time of sign out noted on attendance sheet.) 30% of your lab report grade is therefore for you being in lab and performing the lab experiment. If you were not in lab at the beginning of the lab, you will lose 15% of your lab report grade. If you were not in lab at the end of the lab, you will lose 15% of your grade.

technique points: Up to a maximum of **3 pts (from 10 pt lab report grade, 30% of your 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, 10% of your grade)** 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, 30% of your lab report grade)** 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 approximately 10 labs this semester, you will **earn an F** on the entire class (including the lecture class). The following is from the common departmental syllabus with minor modifications.

1. You will receive the lab report forms at your lab 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 beginning of the next lab class after the completion of the lab and points will be deducted for those turned in late at the rate of 20% per day. Reports turned in after 5 business days after the due date is worth zero points. (If you signed in and signed out, you will have earned 3 /10 pts for having been in lab and having performed the experiments). For example, if the laboratory is completed on Wednesday (7/9), the report is due in the first 15 minutes of the Monday lab class (7/14). If you turn in the lab report on 7/14 M at 1:20 pm (5 minutes past deadline) , the report will be worth a maximum of 8/10 points (lost 20% of points). If you turn in the lab report on 7/21 M at 1:20 pm (5 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) without a documented excuse. You will get to drop one and only one lab mini-final exam without a documented excuse.** 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.

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.

Another example is your calculations showing work with data which does not match the data in your own data table.

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 (data) filled in and (c) then you show final number answer.

NOTE: The following are some more notes from the common departmental syllabus with minor modifications

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 on the Blackboard website. (go to www.fmarion.edu and click on the student "blackboard" link) 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. The time-length of each video is given in the *Lab Manual*. (I think viewing the videos will save you hours of lab performance time however I will not micromanage your viewing the videos.)

E. 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.

F. 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.

H. 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

I. 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.

J. Please turn in all of your graded lab report forms at the end of the semester for extra credit. I don't want graded lab report forms floating around so that I can reuse similar lab report forms in later semesters.

K. Note: All of your lab reports and lab mini-final exams will be graded by Dr. Hahn. Your lab grade and lab policy is determined by Dr. Hahn. Other sections of labs in other semesters may have slightly different policies but those policies do not apply to this lab section in this semester. **(examples: In this lab section, there is no makeup lab. You get no points for doing the prelab quizzes. You get no points for doing the lab notebook. If you miss the lab report turn in deadline, I will not let you turn labs in late without penalty. Late lab reports are worth nothing / zero after a week. Every grade that you earn in the lab will be posted outside of LSF 301 inside the glass window. You should expect to get exactly those points for the lab part of your grade. For the labs, there will be no other extra credit points possible.)**

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.*

<u>Lab #</u>	<u>Date</u>	<u>Lab #</u>	<u>Experiment Name</u>	<u>Manual Pages</u>
1	7/7 M	14	Check-in, Safety, Acids & Base Titration & Normality	19
2	7/9 W	14	Acids & Base Titration & Normality	19
3	7/14 M	17	Thermochemistry: Enthalpy of Neutralization	43
4	7/16 W	15	Types of Intermolecular Forces	29
5	7/21 M	20	Kinetics - Rate of Reaction (microscale)	62
6	7/23 W	21	Qualitative Analysis of Cation (one day version)	69
7	7/28 M	22	Measurement of pH, K _{sp} & Strong acid Titration	78
8	7/30 W	23	Titration of a Weak Acid and Buffer Solutions	82
9	8/4 M	18	Some Oxidation-Reduction Reactions & Electrochemistry Voltaic Cell & Eletrolysis ("Electrochemistry" will be a dry lab handout)	48 55
10	8/6 W	no lab	last mini-final exam & turn in last lab report	---

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: $\text{your missing grade lab 2} / \text{your average on labs} = \text{class average on lab 2} / \text{class average all labs}$

Syllabus Agreement Form, Information Sheet & PIN number selection (please rip out and turn in this page)

I have read and understand the policies stated in the syllabus for Dr. Hahn's CHEM 102 Lab class for the Summer II semester of 2014. 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: _____

***** Information Sheet

contact phone # _____ contact email address _____

major _____ year (please circle one) fresh, sophomore, junior, senior, other

if other please explain _____ last chemistry course taken (course name) _____

when (year, semester) _____ where (here, other) _____ cumulative GPA _____

grade received on last chemistry course _____

other science courses taking currently (give course name) _____

Are you doing research? (yes, no) If so with whom? _____

Why are you taking this class? _____

hobbies: _____

Feel free to tell me anything else you would like me to know about you: _____

***** PIN Selection

I _____ (sign name) give Dr. Hahn permission to

post my grades by using the PIN # _____ for the Summer II 2014 semester for CHEM 102 L

(General Chemistry II Lab) I may opt out of having my grades posted (Do not use your SS# or

student ID # to ensure the security of your posted grades.) I also [(do) or (do not)] (circle one) give Dr.

Hahn permission to return my actual lab reports & exams in a self serve fashion.