

**CHM 102 – Laboratory for Chemistry 101**  
**Syllabus - Summer 2015**

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*Class Meetings:*

Section 1000: Pastore 151    MWTh    10:00 - 12:45 PM  
Section 1001: Pastore 165    MWTh    10:00 - 12:45 PM

*Instructors:*

Matt Luby  
Steven Steinmetz

**Course Description**

Chemistry 102 is the laboratory course that accompanies the Chemistry 101 lecture. Credit for CHM 101 or concurrent enrollment in CHM 101 is a prerequisite to this lab course. Specific information regarding the course is given below.

**Course Policies**

**First day of classes**

All students must attend the first laboratory session to complete a required paperwork or will be dropped from the lab. We have a long waitlist of students trying to get into the course, so if you do not show up, we conclude that you are not interested in the course and will give your place to someone on the waitlist.

**Missed Labs**

**Your course grade will be based on completing and writing up all 10 laboratory experiments.** None of these labs will be dropped. Ideally you will be able to attend all your labs, but if there is an emergency, a limited number of makeup labs will be offered towards the end of the semester. **You are only allowed to make up 1 lab experiment.** The makeup date is Thursday, June 11. Go to the stockroom to sign up for a makeup lab as soon as possible as the spaces fill up fast. All makeup lab reports must be turned in on the following lab meeting.

**Outstanding Bills**

Bills must be paid by the last day of classes. If you have an outstanding bill at that time you will receive an incomplete. Grade changes will not be performed until after the bill is paid. Note: This may take a while, so the grade change may not actually go through until the following semester. Keep this in mind if you need to have your grades on record for a scholarship or other funding.

**Required Materials**

**Safety Equipment**

**You need to have safety glasses, a lab coat, gloves, and shoes that completely enclose your feet for each experiment.** If you do not have the proper safety equipment or are wearing improper footwear, you will be asked to leave the lab and may not return until properly dressed. You must don all safety equipment, except for gloves before you enter the lab.

**Lab Manual**

You must bring the lab manual with you to record data in the lab. Before coming to the lab, you should set up the Data Sheet tables for the assigned experiment that day. All observations and data taken during your experiment must be recorded in ink in the data sheet. If you make a mistake, simply draw a line across the data and write the correct information beside it. You must have your TA sign your data sheet before you leave. Furthermore, the TA should initial any corrections. As a means of checking your data recording skills, you will be required to turn in your data sheet with each experiment, so make your notes organized, clear and concise.

**Calculator and Pen**

You will need a calculator and pen for recording data, and taking the quiz. You will not be allowed to share a calculator during the quiz, so be sure to bring your own.

## Extra Help

### Teaching Assistants

Your TA will be available 2 hours per week in Pastore Room 215. Please email Dr. Ngo immediately if you have trouble contacting your TA.

### Grading and Point Distribution

The teaching assistant assigned to your lab is responsible for all the lab grading. See your TA if you have questions regarding the grading in your lab report. If you still have questions after talking to your TA, contact Dr. Ngo within one week of receiving the graded lab. Your lab reports and quizzes should be graded and handed back to you during your next lab period. Please contact Dr. Ngo if you do not receive your graded material back promptly.

#### Grading for the Course:

Quizzes	20 pts each (best 9 of 10)	25 %
Lab Reports	100 pts each (all 10 count)	50 %
Final Exam	100 pts	25 %
		100 %

#### Quizzes: (20 points each)

You will be given a quiz before each lab that covers the material in the experiment you are about to perform. The purpose of the quizzes is to ensure that you have read the lab thoroughly, understand the general concepts behind the lab, know the safety precautions that should be followed, and are able to perform the calculations given in the experiment. If you have any questions on any of the material in the experiment, see your TA before your lab. Your TA cannot review any material before the quiz is given so you must be prepared to take the quiz as soon as you enter the lab. The quiz is in the lab manual with just some variables/terms missing so you should have an idea of what the quiz entails.

#### Lab Reports (100 points each)

A full write-up of each experiment is due at the start of the indicated lab period as follows: *Monday labs are due on Wednesday; Wednesday and Thursday labs are due on the following Monday.* Handing in the report after the lab has started will be considered a late lab report. You are allowed only 1 late lab report and there will be a 20 point penalty for such. All other lab reports must be handed in before you perform the next experiment or you will receive a zero for write-up. If you miss a class, the report due that day must be handed in at the next class period. There are no exceptions to this rule. **Missing more than 2 lab reports will automatically result in failing the course.**

The grading rubric is included in the lab report template but here are some points to note.

1. It is important to do your own work. In general, you will be working alone, so if you are found using another student's data, or your calculations, conclusions or answers to your discussion questions are too similar to those of another student, both of you will be given a zero for that lab. Points deducted if your data sheet is missing or not signed by your TA. You will receive a zero for the lab if the data used in your calculations, results or conclusions do not match the data on your original data sheet. **YOU MUST COLLECT YOUR OWN DATA!**
2. A lab technique grade will be incorporated into every report. If any unsafe or unprofessional behavior is observed by your TA, chemistry faculty or a member of the stockroom staff, lab technique points will be deducted from your grade. In addition, if your lab space is not completely clean after your experiment, you will lose lab technique points.
3. Your lab report must be typed, including the tables. The only portions of the lab reports that are allowed to be handwritten are the original data sheet and the sample calculations. Emailed reports are not allowed. You must give your TA a hardcopy of your lab report as soon as you enter the lab. You are allowed to hand in one lab up to 1 day late with a 20 point penalty. **A second late lab report will not be accepted and you will receive a zero for the experiment.**

## Final Exam (100 points)

The final exam is cumulative, similar in format to the lab quizzes, but will also include a lab practical. The lab practical involves a series of stations that require you to answer questions about equipment seen in the lab, demonstrate techniques learned in the lab and may also include remembering your observations from the experiments. The date of your final is given in the schedule of experiments. You may be performing experiments, so you will need your lab coat, gloves and safety glasses as well as a calculator and pen unless told otherwise. The date of your final is given in the schedule of experiments.

## Report Preparation and Grading Rubric

A lab report template is in the Resources folder in Sakai. You are expected to **download the template** and follow the instructions for each lab report. The MS Word template is designed to let you delete the text that explains each section and to insert your own wording, thus maintaining the general format of the report. Alternatively, a pdf file containing the same template is also available. If necessary, you can recreate your own template using the pdf file as a guide as long as the same format is followed. Hand-written reports will **not** be accepted.

**The last page of the template is a grading checklist that must be included as the last page of each lab report.**

Review both the checklist and the template before writing your lab report and then after the lab report is written. Check to see that you have included all elements that are listed. The breakdown of the grading of each lab report is shown below:

Format	5 pts	No partial credit	(0/5)
Purpose	4 pts	Full/half/no credit	(0/2/4)
Procedure	5 pts	No partial credit	(0/5)
Calculations	20 pts	Variable credit	(0-20 sliding)
Results	10 pts	Full/half/no credit	(0/5/10)
Conclusions	6 pts	Full/half/no credit	(0/3/6)
Discussion Questions	30 pts	5 questions x 6 pts each	Variable
Original data	20 pts	Variable	(0-20 sliding)

A description of what is required for each section is given in the on-line template. In addition, there are a series of deductions to watch for as well. These deductions are taken off after the lab report is graded based on the elements given above. The final 20 point deduction listed as "Other" is for infractions that do not fit the previous criteria, but are serious enough to warrant a lower grade.

10 pts	Checklist missing
5 pts	Incorrect significant figures
5 pts	Incorrect or missing units
5 pts	Incomplete sentences or wording that makes no sense
5 pt/incident	Portions of the lab report other than calculations and data are hand-written or out of order
50 pts	Original data sheet is missing or <b>not signed by TA</b>
50 pts	Calculations have not been performed with data from data sheet
100 pts	Plagiarism (see plagiarism policy below)
10 pts	Lab area left unclean
20 pts	Improper waste disposal
20 pts	Disruptive behavior (At TAs discretion)
20 pts	Other: (At TAs discretion, but must be explained to the student at the time of the incident)

### Schedule of Experiments

Dates	Day	CHM 102
5/18-1/22	M	Safety Training/Check In
	Tu	–
	W	Exp 1
	Th	Exp 2
	F	–
5/25-5/29	M	NO CLASS
	Tu	–
	W	Exp 3
	Th	Exp 4
	F	–
6/1-6/5	M	Exp 5
	Tu	–
	W	Exp 6
	Th	Exp 7
	F	–
6/8-6/12	M	Exp 8
	Tu	–
	W	Exp 9
	Th	<b>Make-up</b>
	F	–
6/15-6/19	M	Exp 10
	Tu	–
	W	<b>Final</b>
	Th	<b>Last day to pay bills</b>
	F	–