

Chemistry 117 Laboratory Syllabus

Laboratory Coordinator:
Department of Chemistry

RULES TO BE FOLLOWED IN THE LAB:

Failing to follow any one of these can have you removed from the lab.

- Labs start promptly at their scheduled times. Students arriving late will not be allowed to work.
- Reports are to be completed and handed in at the end of each laboratory period. • Safety Goggles (supplied) must be worn whenever anyone in the laboratory is doing an experiment.
- There is no eating and no drinking in the laboratory.
- Do not wear open-toed shoes (e.g. flip-flops, sandals), shorts or skirts and tie back any long hair. A student in violation of the dress code will be asked to leave the laboratory (no exceptions).
- Certain chemicals must be used and remain in the fume hoods. Some chemicals can damage skin and clothing. You will be advised about the safe handling of these chemicals when they are used. If you wish, you may use gloves, available in the lab, when working with hazardous materials. Wear covered cloths on the day you have a lab.
- Always follow instructions regarding disposal of chemicals. Do not dispose of any chemicals in the sinks unless instructed to do so.
- Never replace chemicals in back in the bottle.
- Report any injury immediately to your lab instructor.

Experiments

You need to print the experiments from your Blackboard account before every lab. You are expected to have gone over them and also the voice thread before you come to lab. You should also do the pre lab quiz before coming to lab. These cannot be done once your lab starts.

Recommended Materials

For this course you will need access to some kind of graphing and data management software (preferably Microsoft Excel) and a word processor (such as Microsoft Word). As a UMB student you have access to it through the university. Check out the guide to Office and Excel presentation on the blackboard and you will be guided on how to install it on your computer.

It will also be a good idea to bring a scientific calculator to class, a graphing calculator being an even more useful tool.

Lab Notebook

You must also purchase a *permanently bound composition notebook* to serve as your lab notebook. You must complete notebook preps in your lab notebook before coming to lab (see below). You must also record your data and observations in your lab notebook. Your lab notebook should be thought of as a journal that is an accurate account of what happened in lab. Therefore, all data, observations, and calculations should be written in your notebook during the experiment. You must also write a summary paragraph in your notebook before leaving class. Your instructor will sign off on your notebook once you have successfully completed the experiment and have completed the entries in your notebook. Avoid taking notes outside your notebook; notes and data should not be transcribed into your notebook after the experiment. If you forget your notebook on a given day you must staple your notes from that day into your notebook but do not make a habit of this because it will affect your notebook grade. Notebooks will be graded at the end of the semester based on how thoroughly you organized and recorded the data acquired during each lab session.

Pre-lab Notebook Prep

Each week before coming to lab, you must read the provided background information and experimental procedure in the lab manual. Based on this information, you will write (in your lab notebook) a notebook prep in the following format.

- A 1-2 sentence purpose describing what the experiment will determine (an answer to a scientific question, a value of interest, etc.) 2 pts
- A brief list of all key concepts that pertain to the experiment. (2 pts) - A paragraph summarizing the strategy for performing the experiment (a brief summary of the methods used without giving a duplication of the step-by-step procedure that is in the lab write-up). (2 pts)
- A reproduction of all data tables leaving adequate space for observations made during the lab experiment. (2 pts)
- At the end of lab you will earn an additional 4 pts when your instructor signs off on your notebook.

Voicethread:

All the experiment you will perform in the lab are explained in detail on Blackboard in a program called voice thread. You are expected to have seen them before coming to each lab. **Failing to do so will result in losing 4 points from your conduct grade.**

Lab Participation and Conduct

You are expected to follow all lab rules and be completely engaged with your lab partner(s) in completed the task. You start the day with 10 conduct points. Anytime an instructor notices that you are not wearing your goggles, you are not following the lab instructions, you are texting on your phone, you are improperly disposing of waste, you are using poor lab technique, etc., you will earn a check mark in the gradebook. For each checkmark you will lose 1 point from these ten allocated conduct points.

In the beginning of the semester you will be choosing a lab bench to work. After that you

will write that number on each lab report. If you will leave the space dirty you will lose five conduct points for each time.

Lab Reports

Scientific communications, such as lab reports, generally contain in set order the following sections: Abstract, Introduction, Methods, Data and Analysis, Discussion, and Conclusion. The main body of the document is comprised of all sections except the abstract. The abstract appears first and represents a general summary of the information contained in the other sections. *The abstract stands alone because it summarizes the report to a reader who may not have time to read your entire report, but who wants to understand the information it contains at a glance. Therefore, it should always be written last. A simple way to write a good abstract is to write summary sentences of all of the other sections and weave these summary sentences into a well written paragraph.* The most common mistake in the abstract is to not include any data, results or summary sentence. More complete guidelines may be found in this manual in the “Lab Report Writing Style Guide” section. You can find a sample lab report at the beginning of your lab manual which serves as a demonstration of these principles.

It is always important to write to your audience. In this case you are to pretend that you are writing to someone with some scientific background but no intimate knowledge of the actual experiment. Do not write as if your instructor is your audience. It is a mistake to write it in such a way that assumes prior knowledge of the reader and this mistake will be reflected in your grade.

In this course you will be doing nine experiments. For lab 6 you will be writing a full lab report that will contain all of the above sections. For some labs you will require abbreviated lab reports, where either the abstract, introduction or methods section, in addition to the data and answers to discussion questions, will be required. The discussion section should address and expand on the questions in the lab manual. Devote a paragraph to each question. For three labs you will hand in a lab worksheet at the end of the lab period. You must check with your lab instructor every week what needs to be done for each lab.

Your reports will be graded on the accuracy of the content, as well as the quality of your writing.

Lab report Submission:

Lab reports are due at midnight of the night before the time of your next lab even if there is no lab that week.

Late lab reports will result in loss of grades. Lab reports that are received after 12:00 AM will be considered late and on the first day they will be graded out of 90% of the original grade. In the second day 80% and so on. After five days you can no longer submit the report.

Please do not wait for the last day to try to submit the report. You can have technical issues. Give yourself at least two days extra to make sure your lab reports are not late.

Safety Quiz

On the first day of lab you will watch a safety video. You will also have access to the video via the Blackboard website. After seeing the video, you will take a Safety Quiz.

Make-up Policy

There are no lab make-ups. If you miss a lab, you must immediately email your instructor or Professor for make-up data so you can prepare and submit a report on time, based on the data provided. There will be no penalty on the lab report for the first time this occurs but you will lose the 20 points for the notebook prep and lab conduct grades. For the second time there will be a -50% penalty on the lab report and you will lose the 20 points for the notebook prep and lab conduct grades. If you miss a third lab experiment, a written report for this lab experiment will not be accepted and you will receive no credit for the lab report and notebook prep. If you miss a 4th lab experiment, you will not pass this course.

Attending a Different Lab Session

In general, you are expected to attend the lab section that you registered for. If something comes up that prevents you from attending your lab section, you must complete the lab at another section. You must use the information on the blackboard to contact the instructor of the section you would like to attend by email, cc'ing your original instructor, and ask them for permission to attend. When possible, it is in your best interest to contact the instructors about attending a different section as soon as possible. *You may not attend a different section without getting prior approval.* You may not make a habit of attending a different lab section. If you do, you will be directed to discuss the situation with the lab coordinator.

Tardiness

If you arrive more than 5 minutes late to lab, you will not be allowed to come into the laboratory. If there are other sections of lab that will occur that week, you can ask to attend another section. If you continually show up late for class, your instructor may take a substantial number of points away from your lab participation and conduct grade.

Disability

Section 504 of the Americans with Disabilities Act of 1990 offers guidelines for curriculum modifications and adaptations for students with documented disabilities. If applicable, students may obtain adaptation recommendations from the Ross Center for Disability Services, M-1-401 (617-287-7430). The student must present these recommendations and discuss them with the lab coordinator (Jason Evans) and the instructing TA within a reasonable period, preferably by the end of the Add-Drop period.

Cheating and Plagiarism

The program safeassign cross checks your report against the reports from other sections as well as reports from our data base. It picks up similar sentences. They do not have to be identical. So write your report on your own, not with a friend.

Students are required to adhere to the University Policy on Academic Standards and Cheating, to the University Statement on Plagiarism and the Documentation of Written Work, and to the Code of Student Conduct as delineated in the catalog of Undergraduate Programs, pp. 44-45, and 48-52. The Code is available online at student services.

If you are suspected of cheating in this lab course you will be asked to meet with the lab coordinator. If it is determined that you have cheated by copying another students work, plagiarizing information from the internet or other sources, copied information directly from the manual or course notes, or any other disingenuous method, you will receive a zero for the assignment in question. In addition, sharing your lab reports with your fellow classmates is not permitted. If you share your lab reports with one of your classmates and they copy or use portions of it and this abuse is detected, you will both receive zeros for the report. Depending on the severity case, the matter may be escalated to the school conduct board and you may face a failing grade for the course and/or other disciplinary action.

Grading

<u>Item</u>	<u>Points</u>	<u>Total</u>
Pre lab quiz	5	45
9 Notebook preps/ worksheet (lab 2)	5	45
9 Lab Participation and Conduct Grades	10	90
5 Abbreviated Lab Reports	75	375
3 Data Sheets	50	150
One Full lab report	125	125
Notebook	50	50
Introduction Quiz	20	20
Microsoft Word and Excel Samples	10 each	20
Worksheet for the Unlabeled bottles lab		20

Total possible points	940
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Grading Scale

Grade %	
93 and above	A
92.99	A
90.00	
89.99	B+
87.00	
86.99	B
83.00	
82.99	B
80.00	
79.99	C+
77.00	
76.99	C
73.00	
72.89	C
70.00	
69.89	D+
67.00	
66.99	D
63.00	
62.99	D
60.00	
59.99 and below	F