

Important Lab Information for Undergraduates in The Microsmithy

(adapted from <https://dynamiccecolgy.wordpress.com/2015/04/23/important-information-for-lab-undergrads/>)

Lab Information:

1. We want everyone in the lab to be excited about their research project and to understand what we do and why we do it. If you're ever unsure about why something is being done (or why it's being done in a particular way), **PLEASE ASK!** Ideally, you should ask right away. Asking later is better than not asking at all.
2. Kristen's cell is 412-589-9553. If there is an emergency, call x8000, then call Kristen. If something is weird in the lab (the lab is unusually hot, there's a mysterious puddle on the floor), call Kristen. If it's an emergency, a call at any time is fine. But if it's not an emergency, please email instead.
3. Safety: There are signs on the lab doors that tell you about safety equipment and regulations. The lab also contains the Material Safety Data Sheets (**MSDSs**) for all the chemicals in the lab. These are in a blue binder in the cabinet where the PPE is stored, right next to the safety shower. *If you are ever unsure about whether something is safe or have concerns about safety, please ask!*
4. Training: All students need to complete the Smith safety training class. Please contact Dr. Margaret Rakas to find out the date of the next safety training.

Lab Policies:

1. Lab notebooks:
 1. All lab members must use lab notebooks; these will be provided by the lab and belong to the lab,
 2. Write details for everything you do, and keep things organized. Write lots of details — you can never have too many details. You will remember much less 6 months from now than you think you will! This will help you a lot when you work on your end-of-semester writeup. It will also help everyone later if we need to go back and figure out a specific detail regarding what was done. You should write enough information that we can reproduce what you did without needing to send you any emails. Always write more information than you think you need to write! We've never looked back at an old lab notebook and thought, "Wow, I wish they'd written less." We have definitely looked back at an old lab notebook and thought, "Wow, I wish they'd written more."
 3. Never go back and change anything in your lab notebook at a later date
 4. Don't leave blank spaces – if you accidentally skip a page, draw a line through it.
 5. Staple or tape attachments in to the lab notebook
 6. When you make a mistake (we all do), please write details in the lab notebook. The most important thing is that we acknowledge our mistakes, so that we can take that into account when looking at the data.
 7. We all build on each other's data. That means that it is very important for you to collect data carefully and to record notes carefully, and to note when mistakes are made. If you have any concerns about data collection, procedures, or anything else, please tell Kristen.
 8. Some of the most exciting results we've collected are the ones we never would have expected. Keep an open mind when collecting data. If you see something you didn't expect, record the data and then tell someone else about it. Some really neat research avenues come up from asking questions about strange data!
2. Data: (Thou shalt not be careless with thine data!)
 1. All data must be backed up at least weekly. Make a folder for yourself on the MicroSmithy Google Drive folder.
 2. Include metadata along with your datafiles. What is metadata? It is the data about the data. For example, it might be a text file explaining what data is contained in each of the csv files or txt files.
3. Lab work:
 1. Always have a buddy when you're working in the lab!
 2. You cannot work on certain tasks when Ford Hall is closed (hours you need to swipe to get in the building). If you are unsure what these tasks are, please talk to Kristen.
4. Citations:

1. Please keep track of the papers you're reading with a citation manager like Zotero (zotero.org)
2. Use IEEE format to cite all papers (<https://www.ieee.org/documents/ieeecitationref.pdf>)
3. When making slides, include an image credit or citation *on the slide*, not at the end. In case you copy/paste the slide or otherwise move it, the citation information will move with the slide.

End-of-semester information:

1. All students should write up a summary of their semester's (or summer) work at the end of the semester. This should include a brief introduction to the project, a methods section describing what you did (please be detailed!), a results section, and a brief discussion/conclusions section.
2. For SURF students: please make sure you communicate with your mentor well ahead of any deadlines. At a minimum, you must get a first draft of your research abstract to Kristen two weeks before it is due. You must write your own first draft — this must be entirely your work! **Expect to make several edits — this is completely normal and an important part of developing scientific writing and presentation skills.**
3. For students completing an Honors Thesis: All first drafts are due to Kristen at least two weeks before they are due. You must write your own first draft of everything — this must be entirely your work! **Expect to make several edits — this is completely normal and an important part of developing scientific writing and presentation skills.**

Lab and Individual Meetings:

1. Lab meetings will be scheduled at the beginning of every semester or summer. We will work to find a time that everyone can meet.
2. You will also have a one-on-one meeting with Kristen weekly to check in. If you need to miss this meeting, please email ASAP!
3. Kristen is happy to talk about your career goals, summer plans, letters of recommendation, etc. Just send an email to set up a time. (You can also stop by my office, but there's a chance that I will have something else scheduled if you use this approach.) In cases where I don't know the answer to questions you have, I will try very hard to put you in touch with people or resources that can help you.
4. Please show up on time for meetings.