**Baucom lab guide**

**Draft 1, Feb 2017**

**My general lab philosophy & some lab specifics**

I am invested in your success. I define success as the ability to graduate or move to a new position; this broad definition indicates that I do not care what type of job or position you attain after spending time in my lab, simply that your time with me as an advisor or mentor has helped you advance your career.

I advise graduate students/post-docs/technicians/undergraduates slightly differently. The relative roles of each are somewhat different. Graduate students, for example, are in the graduate program, and need to make progress according to this program. Post-docs are working on (usually funded) aspects of the lab’s work, and are responsible primarily for producing manuscripts and helping train grads/undergrads. Technicians are hired to do the groundwork that I can’t because I am busy doing a million other things.

I want you to work hard while you are in the lab, but to most importantly to work efficiently. Try to hit the goals that we establish for your career without working more than 40 hours a week (more may be necessary if we are harvesting or doing an intense experiment). Have a life outside the lab, exercise, work on your happiness.

On the happiness front, everyone should take their vacation days during the year. Be sure to communicate with me when you would like to be gone for vacation and for how long, and give me at least 2 weeks notice for short trips (3-4 days) but a much longer head’s up for longer trips (>4 days). Thus far, I have approved all vacation requests except for one; it would have interfered with summer field work.

**My mentorship/collaboration goals, i.e., what you can expect from me**

In general, I see my job as one of advocacy -- I advocate on behalf of the graduate students within the department to ensure they can make progress. I write letters of reference for lab members. I help lab members get their work written up and published. I write grants to fund the lab (i.e., to pay post-docs, techs, and sometimes grad students!). I clear the road so that you can get your work done.

I create a scientific atmosphere ripe for learning, but I won’t teach you everything you need to know. This is because each project will need something slightly different, and I am not all-knowing, nor do I want to be an expert in everything. This is why you are in the lab!! If there is something you need to learn that is not in my wheelhouse, I will point you in the right direction so that you can get there on your own.

I try to meet with everyone individually each week for 30 mins to an hour to catch up on scientific progress. This isn’t possible when I’m teaching a large course, and for those weeks you may have to be resourceful in my absence. Other ways to get feedback from me are during lab group meeting and via email, which I am generally good responding to (unless the issue is not super critical, and I am under the gun getting something else finished).

I will help you edit and prepare grants, dissertation chapters, posters, and talks. I generally return drafts of papers within 3-7 days (longer if I am teaching a large class). Unless I specifically say so, I will want to see everything before it is submitted, no matter how minor (conference abstract, poster, paper, grant, etc) -- this helps me maintain quality and helps ensure our success rate.

With regards to feedback: I will be direct with you when I find areas that need improvement. I tend to be pretty clear with my expectations. If you don’t hear from me, it is because I think you are making progress. If I determine that there are performance issues, I will develop a performance improvement plan, and expect weekly and monthly improvements following this rather specific feedback. This is relatively uncommon however. On the other hand, I will tell you when you have done a good job on the big things -- for example, we celebrate when a paper or grant is submitted or accepted, someone gets a job, or graduates, etc. If I were more personally organized we would celebrate birthdays.

**How to determine if you are making progress in the lab**

Given that I do not give people daily, weekly, or even monthly progress reports, how is one to know if they are making solid progress? Again it depends on your position in the lab. If you are a graduate student, it is fairly clear -- are you developing research ideas, applying for grants to enact these plans, taking courses, collecting data, analyzing it, and writing up your results? Have you taken and passed your prelims ([see here for a prelims study guide](https://docs.google.com/document/d/1lvzKUcrAnNME6kbmYiGQijOVDMbTNWLVj0D0QpZs1m4/edit?usp=sharing))? Have you helped me to develop an [individual mentoring plan](http://www.rackham.umich.edu/mentoring)? If you are a post-doc, are you producing manuscripts that will help you to be successful on the job market? Are you helping to mentor others in the lab? If you are a technician, are you producing data at my direction, maintaining a lab notebook, ordering stuff for lab members, helping to ensure the science gets done, as well as mentoring and working with undergrads and grads?

This of course means that each person has to be individually guided and resourceful. Get used to being in charge of your own calendar. To this end, here are some good guides on getting things done and avoiding procrastination:

1. [Getting things done](https://www.amazon.com/Getting-Things-Done-Stress-Free-Productivity/dp/0142000280)
2. [The 7 habits of highly effective people](https://www.amazon.com/Habits-Highly-Effective-People-Powerful/dp/0743269519)
3. [Eat that frog!](https://www.amazon.com/Eat-That-Frog-Great-Procrastinating/dp/1576754227)

**The importance of being professional**

There are a couple of important considerations inherent to your success in the lab: first, I am equally committed to the success of everyone in the lab. This means that I make an effort to treat everyone equitably. I do not want some people to feel as if they are less appreciated than others, and further, I want to ensure that lab members do not harbor resentment toward one another -- such a scenario can hurt morale and collaboration within the lab. Second, I value a professional lab atmosphere, which I believe to be crucial to overall lab success. I don’t mean to suggest we have to dress a particular way or make sure we never let an F-bomb slip. I mean we interact with one another in a professional manner -- no gossiping, especially the unkind sort; no projecting bad moods on one another; respect healthy colleague-colleague & mentor/boss-advisee/employee boundaries.

While I \*do\* want to know if you are dealing with a medical condition (physical or mental, or negotiating family problems), and may need to have time off to effectively get things under control, I do not overstep boundaries and pry into your private life. Further, while I care about your general overall health, I am not a trained psychologist or life-coach. My advice on these fronts will be flawed. If you are struggling with general malaise regarding getting your work done, or a mental/emotional block with regards to your work, you need life coaching or counseling, and this is your responsibility to set this up and follow through. I will happily point you to the appropriate university-related people that CAN help in this way, for example, see [Faculty and Staff Assistance Program](https://hr.umich.edu/benefits-wellness/health/mhealthy/mental-emotional-well-being/faculty-staff-assistance-program-fasap) for staff (links to mental wellness, stress reduction, counseling and life coaching), and [CAPS](https://caps.umich.edu/) for graduate and undergraduate students. I can also suggest some books to read on this front, but again, NOT my wheelhouse, *i.e*., call in the professionals, not your boss!

Some helpful resources on being professional at work:

[Dear Advisee: what your advisor wants you to know](http://www.apa.org/monitor/2012/07-08/advisee.aspx)

[How to be professional at work](http://www.wikihow.com/Be-Professional-at-Work)

[6 characteristics of successful employees](http://startupinstitute.com/static/images/six_characteristics_research.pdf)

[9 traits of star employees](http://www.inc.com/business-insider/9-traits-of-the-best-employees.html)

[Crucial conversations](https://www.amazon.com/Crucial-Conversations-Talking-Stakes-Second/dp/1469266822): Very helpful if you are having difficulty communicating issues/problems

**Traits of the ideal lab member**

As a group, we previously brainstormed qualities of the ideal lab member. The below table is the outcome of this exercise.

|  |  |  |  |
| --- | --- | --- | --- |
| **Communication** | **Professionalism** | **General qualities** | **General qual’s, cont** |
| Able to converse; don’t bottle it up! | No victim-blaming others; figure it out, personal accountability | Efficient & organized | Confident |
| Good social sense! | Independence | Cleanliness | Work hard! |
| Bridge-builder | Ethics & integrity | Collaborative | Imp: Work smart! |
| Patient | Not bogged down by hurdles | Keep It Simple |  |
|  | Play well in sandbox | Enthusiastic! |  |
|  | Understand/respect boundaries | Resourceful |  |

**Other references**

1. [Mohammad Noor's guide to grad school](https://yang.entomology.ucdavis.edu/assets/pdfs/MohamedNoorGrad101.pdf): lots of useful information here on realistic expectations, working in a lab group, helpful to more than grads only

2. [UMich’s resources for effective teaching](http://www.crlt.umich.edu/): a panoply of teaching resources. CRLT will also work with you individually to improve your teaching outcomes.

3. [Student Community Resources](http://www.rackham.umich.edu/current-students/community-resources): This contains helpful links & resources for students w disabilities, students with children, LGBTQ, International students, students of color, and undocumented students.

4. More to come!

**How does the lab run day to day? A specific guide for Baucom lab members**

(Much of this is borrowed/adapted from [Meg Duffy](https://duffylab.wordpress.com/)!)

**General Lab Information:**  
  
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. But, if you realize later that you are confused, asking later is better than not asking at all. We have a great lab group, and people are always willing to help each other out and to answer questions.

If there is a true emergency (e.g., fire, serious injury, etc.), call 911, then call Gina’s cell phone if possible. If there is a lab emergency (e.g., the lab is unusually hot, there’s a mysterious puddle on the floor, an environmental chamber is misbehaving), call Gina. If it’s an emergency, a call at any time is fine. But if it’s not an emergency, please do not call or text between 9PM and 7AM!

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 located in the . If you are ever unsure about whether something is safe or have concerns about safety, please ask!

Training: All students need to complete two online safety training modules. The two lab safety modules you need to take are:

* BLS025w
* BLS101w

Please go to: http://www.oseh.umich.edu/training/mylinc.shtml to take those courses. You must do this by the end of your first week working in the lab. Email the certificates of completion (a screen cap or pdf) to Gina when you have finished the courses.

**Lab Policies:**  
  
**Lab notebooks:**

* All lab members must use lab notebooks; these will be provided by the lab, belong to the lab, and must stay in the lab at all times (including after you finish working in the lab). Lab notebooks should never leave the lab! If you need a copy of information (e.g., to enter data at home), this is a great opportunity to scan it or take a photo of the relevant pages.
* The ideal lab notebook would be the following: a composition or graph notebook for notes, with each experiment dated. This composition notebook with your notes should be kept with a large 3-ring binder for organized data sheets -- date the data sheets according to your notes in the composition book.
* When you start your lab composition notebook, leave a few (3-4) pages blank at the beginning. You can update these over time to provide a table of contents for your lab notebook, which will make it easier for you (and everyone else!) to find info in your lab notebook later.
* Write details for everything you do, and keep things organized. Write lots of details — you can never have too many details and 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.”
* Never go back and change anything in your lab notebook at a later date
* Don’t leave blank spaces – if you accidentally skip a page, draw a cross through it.
* Staple attachments in to the lab notebook
* If you make a mistake (and we all do at some point!), please write details in the lab notebook and notify your mentor. We have all made mistakes. The most important thing is that we acknowledge them, so that we can take that into account when continuing with the study and when looking at the data.
* Related to the above: 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 Gina. 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. We’ve had some really neat research avenues opened up by undergrad observations!

**Data: (Thou shalt not be careless with thine data!)**

* All data must be backed up daily. At the end of each day in the lab, take a photo (e.g., with your cell phone) or scan (using the copier at the end of the hallway) any datasheets and entries into your lab notebook. Upload that scan to an MBox folder. Use a separate MBox folder to match each project; upload it to the appropriate notebook. When uploading to MBox, include a note saying which lab notebook the scan came out of or where the data sheets are stored. (In the latter case, they should either get taped into a lab notebook or punched with a three hole punch and put in a binder. If the latter, indicate the label on the binder.)
* Data should be entered into Excel (and proofed) routinely (aim for daily)  
  All computer files (e.g., Excel files, Word documents) should be backed up regularly (at least weekly). Backups should be stored in a location different than where the computer is (the cloud is an easy solution to this!) An easy way to do this is to have a file on the lab desktop computer, since this automatically gets backed up to the cloud every day.
* 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, and which R scripts go along with those data.

**Field work:**

* Try to have a buddy when you go into the field! Be conscientious about your surroundings if you are collecting on roadsides; if you are at the field plot at Matthaei, let Mike (or someone) know you are working out there each day.
* Wear sunscreen and dress appropriately. Don’t forget to have plenty of water and food. If you are taking undergraduates out into the field, you are responsible for their safety!!

**End-of-semester information (mostly for undergraduates):**

* All students should write up a summary of their semester’s 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. You must get a draft of this to your mentor at least two weeks before the end of the semester. If you would like examples, please ask Gina.
* For UROP 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 your mentor two weeks before it is due. You must also get a draft of your poster to your mentor two weeks before it is due. You must write your own first draft — this must be entirely your work! Your mentor will then help you with editing your abstract and poster. Expect to go back and forth several times — this is completely normal and an important part of developing scientific writing and presentation skills.
* For students completing an Honors Thesis: make sure you communicate with your mentor well ahead of any deadlines. All first drafts are due to your mentor at least two weeks before they are due. For the thesis itself, talk with your mentor at the beginning of the semester in which you will turn in the thesis to come up with a set of target dates for drafts of different sections of the manuscript. Ideally, you will spend one semester writing up an introduction and methods relating to what you are doing, and then a second semester writing up the results and discussion. You must write your own first draft of everything — this must be entirely your work! Your mentor will then help you with editing. Expect to go back and forth multiple times — this is completely normal and an important part of developing scientific writing and presentation skills.

Other information:

* Undergraduates are strongly encouraged to attend lab meetings. Attendance is not required, but we do hope you’ll join us!
* Related to the above: we routinely have lab meetings related to the process of science (how do we go from the data I’m collecting to a publication?), skills (e.g., working on an “elevator pitch” — that is, a succinct summary of your research), and ethics (e.g., what counts as plagiarism? Who is harmed when data are falsified?) If any of these topics are of interest to you, or if you have other ideas for a lab meeting, please suggest them!
* Gina 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.  
  Please show up on time for meetings.