

Summary:

- First year:
 - o Classes
 - Keep up with your classes daily so you don't fall behind.
 - Take class notes twice, during lecture and then outside class as revision.
 - Don't get hung up on getting an A in your class. B is a pass and good enough.
 - o Picking a lab
 - If interested in a lab, talk to current/past grad students in that lab to learn about its culture.
 - Use the rotations' interview to interview and assess the PI too.
 - Treat rotations as a means of acclimating yourself with the lab environment rather than producing data.
 - A good mentor/PI is much more valuable than a good project.
 - If interested in a lab that isn't part of the program, reach out to your department to see if they can be added to the department.
 - o Health
 - Don't stress at lack of progress for the first few years. Productivity and progress in lab is not linear.
 - Don't neglect your mental and physical health. Poor health will only detriment your growth as a student and scientist.
 - Establish your boundaries in terms of your schedule early into the rotations.
- Second year:
 - o Qualifying Exams/Proposals
 - Some programs have a qualifying exam, in which you are given a few months to study a handful of papers before taking a test on them. The exam will challenge your critical thinking and creativity, so it's not enough to memorize.
 - Some programs have a qualifying proposal, in which you make a mock research proposal to present to a committee of professors.
 - Some programs have neither of the above, and instead throw students straight into the process of writing their thesis proposal, which functions much like the qualifying proposal, except it's your actual research.
 - If you have a qualifying or thesis proposal, make progress on it early so that you can get feedback from your PI and peers before the due dates.
 - Make progress regularly on a weekly basis so that the studying/writing doesn't become overwhelming near the due date.
 - If you have a qualifying proposal, write it on a topic within your field and within your lab's line of research. It can be difficult to write about unrelated fields.
 - o Classes
 - Pick electives relevant to your research.
 - Also take advantage of the excellent electives on science communication offered by Stony Brook.
 - o Health
 - Juggling TAing, classes, research, quals/proposals, and life is a lot, but don't worry: you've got this!
- Third year:
 - o Health

- Don't stress too much if your project isn't going the way you thought it would. Most of your publishable data will come from the last year of your PhD!
- o Writing
 - Read examples of successfully funded grants.
 - Start writing your results in manuscript format and try to make near-ready figures.
- General:
 - o Life
 - Talk with your PI about what your career goals are from day one in the lab.
 - Explore hobbies and what makes you happy during your years here.
 - Lean on your peers and friends; they are essential for your survival in grad school.
 - Don't compare yourself to other students, grad school is tough for everyone even if people don't show it.
 - o Health
 - Don't wait until "after grad school", do what makes you happy and you will figure out a work-life balance along the way.
 - Surround yourself with people who have your best interest in heart.
 - Don't hesitate to go to a therapist or CAPS (on campus). Talking with someone about your experiences, especially the stress of grad school, will help you in the long run.
 - If you are feeling overwhelmed or stressed take a break, go for a walk, try and organize your thoughts and things you need to do.
 - Set a clear distinction between home-life and work-life, try to avoid bringing work to home with you.
 - o Class/lab
 - Don't hesitate to bother and bug your professors, asking questions and learning is what you are here for. You are a student first.
 - Join a lab where you get along well with the people in the lab. They will be your coworkers, peers, and supervisors for the next few years.

Advice for 1st years:

- I know graduate level courses are a whole different experience than undergraduate classes. I found that the best way to review and gain control of the material is to take your notes twice. The first round of notes you take during the lecture incorporating tips and tricks the professor lectured about, then the second rounds of notes are rewriting of your first notes while pulling from the slides and outside material. This helps greatly to organize your thoughts and review the material. When picking rotations, I suggest talking to the year above you to get their impressions of PIs and their rotations often people rotate in similar labs. Reaching out to senior graduate students in the lab is also very beneficial, in understanding the lab culture.
- Don't stress too much about lack of progress in your first few years. Your productivity in graduate school is less like a linear graph, and more like an exponential graph, where most of your data gets collected towards the end once you've gotten past the learning curves and troubleshooting of techniques.
- Trust the science you are doing more than trusting other people's experience or time that they spend in their career.
- Combination of both on a healthy level I would say mainly for first year
- For students that are picking a lab to stay, make sure you talk to enough people who are familiar with the lab, especially current and past students. The most important thing is you are happy and grow as much as possible especially as a scientist after ~4 years in a lab. Also, science will be easier if you are in the optimal physical and mental state, so be sure to take good care of yourself.
- First year of grad school is no doubt very hectic! That's why it's very important to establish healthy boundaries from the beginning. I know you want to give it your all and perform your very best in your rotations. However, burnout will only make you less productive and more miserable. Below are some tips that I have for setting boundaries. Of course, these tips would not apply to someone who's a workaholic and loves to be working/doing science on weekends, holidays, and until late nights or early mornings. If that's something that you enjoy doing and you think you can keep it up for 5+ years, then go for it! You know you're the best! I can't do science 24/7 - my brain needs "off-time" to recharge during which I fulfill my responsibilities towards my family, friends and myself. Tips: My greatest tip is if you can't keep up with your rotation's work pace for 5+ years then it's probably not a healthy pace and you need to establish or re-establish your boundaries. 1) Every once-in-a-while you will have to spend a weekend in the lab or work late hours but do not let that become your daily/weekly routine. You have classes to study for and TAing starting your second semester so learning to balance time is super important. Nobody reasonable should be expecting you to do enough work during your rotation that could make a whole figure in a paper so if you feel that you're being pushed to work every weekend and stay late at night every day, that is not okay. It's okay to let your mentor, be that a grad student, a postdoc or your PI, know that you are not available on most weekends because you need to catch up on your classes (even if you'll use the time to relax but don't feel comfortable saying so). 2) Take the holidays off. One (or two, depending on your program) of your rotations will likely have a holiday or two. Do not feel forced to work during that time. Ask yourself this question: Would you really be happy joining a lab where you'd spend every holiday working in the next 5 years? If the answer is "No" then do take off. Rotation time is limited of course so you don't have to take 3-7 days off but at the very least take 1 day off to relax and remind those around you to not expect you to be

working 24/7. 3) Establish your boundaries early on in your rotations. 4) Print your schedule and stick it on your bench (or if there's a shared lab calendar for people to enter their schedule, make sure to do so). This way everyone will know when you'd be in class and the times you're available.

Remember: grad school isn't a sprint, it's a marathon :) **tl;dr:** If you can't keep up with something for 5+ years, don't do it just to impress your PI. Set boundaries during your rotation so that if you join the lab you can continue at the same pace (or faster) as your rotation.

- When taking classes, while grades are important, remember that they are not the be all and end all of everything. You need a B to pass, so don't be discouraged if you haven't received the A you're so used to. Grades do not indicate how good of a scientist you are. Go easy on yourself.
- When rotating or picking labs, remember that your job is to get a feel of the lab, not to produce data. Talk to people in the lab, talk to your mentor, talk to collaborators, talk to others who may have left/graduated from the lab. It sometimes happens that a lab will seem like the perfect match but after your rotation, will end up being a mismatch. To avoid this, pay attention to red flags, like mentors not wanting to meet or people in lab being territorial about projects or a clique atmosphere in the lab. Talk to Martha and/or seniors to navigate these issues. Don't be afraid to look for an environment in which you will thrive, not just survive.
- 1st year- Choose your rotations wisely. Having a good mentor is more important than choosing a good project. Allot a fixed time you want to spend on your TA. It varies between courses you teach, but have a fixed time for it and focus on your rotation/research.
- Make you sure you do not get behind in your classes! One tip I suggest is after every class just type up your notes into a study guide or make index cards and then just read it over a little bit each night. The work from mol gen and genetics can be a lot so by studying little by little, hopefully you won't be as overwhelmed! For rotations, try to get a good variety of labs to get an idea of what you like best. Do not be afraid or embarrassed to ask other students for recommendations. That's how I chose my first rotation and I really enjoyed it :).
- 1ST years, do not pick your rotations without talking to other grad students/previous lab members first. And don't settle for a lab because you feel time is running out to choose, ask for help in finding rotations from older grad students/MCB chair.
- Some advice for new students (1st year): any opportunity to read research papers, take it, if a professor recommends a paper or two for the chapter they're on READ THEM. You will benefit greatly from getting practice in reading scientific literature early, the more practice the better. Once you join a lab and get a project, there's a lot of reading in the beginning and getting practice in now will help you lots down the line and help you really jump into your research. ALSO: join the lab that you felt most comfortable in and got along with everyone the best. I've seen what can happen if you clash badly with your peers and PI and it can be a real issue down the line for your phd and your mental health. Remember: every lab will have awesome research and you'll find something you love in every lab, but the people in the lab are going to be your coworkers and peers and friends for the next 4+ years, and picking the people is more important than picking the project.
- When looking for PIs to rotate with, bear in mind that not all of the PIs listed as being a part of the program will be available. Considerations such as funding and space may mean that the professor you really wanted to work with simply isn't looking to take in new grad students at the time of your rotation. So make sure to have backup professors for who you might want to rotate with. Additionally,

it's easy to focus on the science when picking a rotation. Obviously, you're going to read some of the papers put out by the lab you're considering for a rotation to see if the science excites you, but remember to also consider the lab environment (is it a lab where everyone is casual or professional? Do people help each other frequently in the lab? Will you have someone available to pose questions to if you need to know something?), and PI's temperament (Does your PI see mentoring you as a privilege or as an annoyance? How much time will you PI be willing to dedicate to training you, or will someone else be able to do it their absence? Is your PI a nice person? Do you get along with them and the people in their lab?). Most of those things are hard to assess before having rotated, but that leads me to my final piece of advice: use the rotation interview to your advantage. It is customary for you to meet with an talk to the PI you're interested in rotating with before rotating. Many students think of this as an opportunity for the PI to assess them and decide whether to accept them for a rotation, and that is what it is, but it's also an opportunity for YOU to interview THEM. Pose questions about their lab, lab environment, scientific direction, and the PI themselves. Ask them about the impact of their publications, contributions to their field, about the field their a part of, and anything else you might want to know before rotating. This can yield helpful information which you can use to decide on a rotation lab.

Advice for 2nd years:

- For qualifier I would say that a winning strategy is trying to front-load your work so that you are able to pass it by your PI and get guidance. Often the most difficult part of writing a research proposal is understanding how to create a writing that flows and clearly portrays your ideas. Additionally, you should lean on your peers and lab mates asking for edits on your proposal or mock presentations.
- When picking electives, definitely take ones that might be directly applicable to your own research, but also take some writing and communication focused classes. They will be highly beneficial when it comes to writing your qualifier, proposal, dissertation as well as any and all presentations that you give during graduate school.
- You need motivation mostly for when you get on the bench side third year on but you need discipline for first 2 years with studying/TA and rotating. GOOD LUCK. YOU GOT THIS.
- When working on longer written projects such as a thesis proposal, I would set aside a certain amount of time each day or a certain amount of time for the week to make sure these labor intensive assignments do not become overwhelming closer to the due date. For me personally, I like to get some written work done before coming to campus each morning such as grading, responding to emails, reading papers and working on writing. A lot can get done in 15-30 minutes. Staying consistent with this really takes out a lot of stress when juggling classes, working in lab and teaching responsibilities.
- For the qualifying exam, just write it on something similar to your field but not completely the same path. So if you work in a pancreatic cancer lab, write it on pancreatic cancer in a different aspect. Don't try to write it on something completely random, it is not fun. Goodluck!

- 2nd year students: The thesis proposal is incoming and that will likely seem to consume your life as it approaches, however I found some peace in leaving my desk and walking in nature in between bouts of writing to remind myself that the world will still go on no matter what happens with the proposal and its preparations, the day of the proposal is still the same 24 hour day and it'll pass like all others have, prioritize your mental health above everything is what I'm trying to get at. Your classes are almost done (if not already), you will be done TA-ing by the end of the year and year 3 will be the best of them all I've found. The best work-life balance I've had so far has come during year 3 where research is at the front of my mind and usually the only thing on my schedule besides the occasional lab meeting and seminar.

Advice for 3rd years:

- I would also recommend to 2nd-3rd year students do proposal defense on-time and do your annual committee meetings every year. This will help you to move forward more efficiently. Start writing your results in manuscript format as you go and try to make near-ready figures. This will help immensely in making any presentations and writing your thesis. Good luck!
- Try to enjoy grad life and learn as much as you can. A senior grad student had told me this in my 3rd year - don't stress too much if your project is not making sense or not shaping up. He said that whatever you do, majority of your publishable data will come from the last year of your PhD! At the time I was annoyed that I'm working so so hard and not getting anywhere but now as a 5th year student, I see his point. I'm still not close to graduating but I realize that all the previous years of struggling and troubleshooting is how I have a clear direction now to work on and hopefully wrap up in another year or so. Sooo, don't lose hope, don't compare, just enjoy and focus on learning and growing! :D
- 2nd/3rd years- your thesis proposal will be one of the scariest things you do, but you WILL get through it!! Turn your written proposal into an NIH F31 application, since they are written in the same format you have a significant portion of the application already done. Read a ton of examples of grant writing! See what successfully funded applications look like.
- Year 3 students: I can only give limited advice because I'm in the thick of it right now but truly take advantage of this time to do lots of critical thinking and planning in your project, BUT, also prioritize your mental health and value your free time greatly. I've taken a lot of time this year to see my family, enjoy time outside of lab, find help for my mental health properly, and it's been the happiest year so far of grad school. When you have free time try to make it purely FREE TIME, not thinking about lab work or experiments, let your brain turn off every now and then it will benefit you greatly in the long run. It's great to work hard and live out that stereotypical burnt out grad student lifestyle that's glamorized in social media, however, you will not look back on this year and wish you stressed yourself out more, you will wish you spent more time with your friends and loved ones, ENJOY TIME OFF. and also get counseling, its literally for everyone and its the best to help you organize your feelings and worries, which every grad student has in bulk. I hope any of this advice was helpful for someone, because I wish I had someone to tell me this stuff when I first joined MCB, best wishes to everyone going forward :)

General advice for all years:

- Don't put off life events just because you're in graduate school. There's never going to feel like a perfect time to take a vacation, get married, have a child, etc. - so do what makes you happy and you'll learn how to achieve a healthy work-life balance along the way.
- Make sure to identify those who have your best interests in mind. This ideally includes your P.I. but can also include your graduate program director, thesis committee members, informal mentors, colleagues, etc. There are also plenty of support options on campus including CAPS, the Ombud's Office, etc.
- Science will be easier if you are in the optimal physical and mental state, so be sure to take good care of yourself.
- As soon as you begin your journey in grad school I recommend finding a friendly face—one in a crowd of many, for some that is within the cohort—this is ideal since you will be in classes together, but it can be anyone! A friendly face will save you more times than not. Also, if you are struggling with mental health—don't hesitate to look into CAPS—it is right at the school and can even attend sessions through zoom! Don't try to be an undergrad—by this I mean don't strive for an A every time, it will kill you! Focus on learning and understanding the material so that you can apply it to other scenarios—take advantage of emailing professors and BOTHER THEM—you are a STUDENT first so remember you can ask all the questions you need as much as you need!!! Finally—don't stress Quals, Martha is the best and walks you through it—it wasn't easy but you will do fine if you do what she guides you to. This is AMAZING practice for the proposal as well (same format). When choosing a committee talk to your labmates and especially your PI. Also, don't be afraid of bothering your PI—they are there to help guide you into becoming a scientist!!! Ask questions, be vulnerable—it's OK to be wrong or not know things. Remember most of all you are human and it is important to find a balance with work/school/life. You are only given one life. :)
- Always be nice to everyone, and always do the right thing.
- Sometimes students take the advice of choosing the appropriate lab lightly. After spending 5 years in grad school, I cannot emphasize enough that choosing the right lab environment is the key to survive. You will do the necessary experiments and move your project forward in 2-3 years after your proposal but getting the right advice and support about your next career step is also equally important. Students do not realize about this (including me) until they are about to graduate and plan for next steps. When you rotate and meet your PI, talk about what you want to achieve after PhD as well. Regardless of your choice of career, a good PI should always support and guide you. Keep this in mind early in your grad school to make your last few months less stressful.
- Grad school is hard and everyone struggles even if they do not look or act like they are. Grades are not as important as undergrad—focus on PASSING and LEARNING. Also, at the end of the day remember you are a student and here to learn so doing poorly sometimes is part of the process. Try not to internalize "failures" and instead focus on your wins! Most importantly, check out CAPS. A therapist is a key part of graduate school bc let's face it—we all have some trauma that exists in the

back of our minds and talking to someone will only help us. CAPS is great because it is free and also offer telehealth resources. Definitely take this into consideration no matter what year you are in grad school. Finally--remember you are MORE THAN YOUR DEGREE. We are here for a short amount of time and although our decision to pursue higher education can be a part of our lives, it should NOT become the only thing in your life. Explore hobbies and what makes you happy during your years here. Best of luck! :)

- Remember, you're not alone in the struggle! PhD is not easy but you're getting close, so don't give up. Every single PhD student I know has had a difficult ride in some way or the other - either the project takes an unexpected turn, they get scooped, PI is very difficult to work with, lack of funding, no help from lab, sometimes no help from PI too. The challenges may be different for you and your peers but its not a smooth ride for anyone, so it's best not to compare ourselves or our progress against that of others. And even if you're facing a problem that is not listed above, trust me you'll get past it. Just keep at it and things will work out! Also, Martha is the most amazing program director you could've ever wished for so if you run into troubles beyond the science, just talk to her.
- If you're experiencing imposter syndrome, know that everyone else is too. Don't doubt your ability, you are here for a reason. Nurture your ideas and learn what you don't know.
- The most difficult thing for me when I started grad school was juggling a work life balance with all the responsibilities of grad school. A few tips that I learned along the way was really learning how to manage my time and set boundaries. When feeling overwhelmed with all the major and minor tasks that you want to get done each week I do what I call "brain dumping" where I write down every little thing that I have to get done and I keep that sheet out throughout the day in case I forgot something on the original list. Then, I spend some time assigning a time slot for each task that way I have a sense of having everything that has to be done under control. When you finish all the tasks for the day, I cut myself off from work for the day. It is very easy to fall into the trap of overworking on one day and the following day being burnt out.
- Have many mentors but remember you don't have to take everyone's' suggestion. Yes this is a marathon, but in this race there are times to be fast and times to relax.
- Remember that science is 99% troubleshooting/dead-ends, and 1% breakthroughs. Even if you feel like nothing is working, don't feel disheartened: you're not a bad scientist. All scientists struggle to make things work simply because of the nature of our work. We're wresting secrets from the universe itself, and we're investigating things which no one has investigated before, so there's no manual for what we do, hence the abundance of struggles and setbacks. Just think creatively, take care of your physical and mental health, be open-minded, and be persistent. If you can do those things, you'll make it.

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