



BME Graduate School Survival Guide

Welcome to Ohio State! This handout was prepared by seasoned graduate students in the BME Department to serve as a guide for your graduate school experience. It includes a discussion of the chronological path of graduate school, a list of university resources to help you with your classes and thesis, grant opportunities to keep an eye out for, fun things to do at OSU and in Columbus, and advice on everything from managing money to adviser-student relationships. We look forward to working with you guys this year and hope you enjoy all the awesome insider knowledge contained within this guide!

--- Birce Ela Onal, Mark Calhoun, Peter Amaya, Lauren Cosby

1. Chronological path of grad school (PhD students)

Note: (1.1) is pretty similar for Master's and PhD students. (1.2) is where the Master's students diverge - instead of a candidacy exam, a Master's student will write a thesis discussing their completed Master's project and presenting their final data, and typically will give an oral presentation on this thesis. Master's students need not worry about (1.3) or (1.4).

1.1 Pre-Candidacy

(1.1.1) Balancing classes and research

We get this question every year. How do I balance classes and research? This is completely up to you and your adviser, and everyone has different rules. Some people stay in lab until 11 pm every night. Some people work weekends. Some people do neither. Within the first few weeks of starting in the lab, you should have this conversation with your PI and ask: how much time do you advise that I spend in the lab during my first semester here? They will probably not give you an exact number of hours per week, but will suggest that you stick around when you are not busy with classes or homework. It's also good to figure out the schedule of the older grad students and postdocs in your lab, so that you can be around while they are around and glean knowledge from them.

Our recommendation during your first semester at OSU is to take some time to adjust to your new environment, your new lab, and the demands of graduate school. Ask your adviser for articles to read so that you can familiarize yourself with the work of the lab. While you are in lab, ask questions, take notes, and make sure that you are getting trained properly on the necessary lab techniques.

Remember that while you are in class, you are still expected to get good grades in graduate school. Form study groups early on, communicate with your professors, and do good work.

(1.1.2) Recommended things to accomplish pre-candidacy (first two years)

- Finish your classes and do well in them.
- Read as many papers as possible. Join a journal club and get used to verbally discussing your research if you can.
- Apply for a grant that is related to your dissertation work. You need to have experience writing a proposal on your project and this is the best way to do so. We have suggestions for grants to apply for later on in this survival guide.

(1.1.3) Complete program of study form

When choosing your courses, it's important to keep in mind all of the requirements dictated by the [BME Student Handbook](#). Your grades and your coursework will have to be approved by your candidacy committee members (discussed in the next section).

1.2 Candidacy aka Qualifying Exams aka Quals

The candidacy or qualifying exams for PhD students is a set of exams that test you on whether you are capable of performing PhD level research. Candidacy takes place after a student has completed their courses. The advantage to taking candidacy sooner rather than later is that your tuition fees go down, so your adviser does not have to pay a large amount to keep you on as a student. That being said, schedule your candidacy exams when you are ready and try not to rush to this step.

Your candidacy written and verbal exams are overseen by a committee of four professors, two of which must be BME faculty. In your classes and your research, keep an eye out for professors who you think would (a) support you well throughout your graduate school career, (b) have relevant experience and input to your dissertation project, and (c) recommend you well for your work in graduate school. Towards the end of your coursework, ask the three professors (one of them should be your adviser anyway) to be on your committee. It is better to do this in person rather than through email.

Before we get into the layout of candidacy, you must first complete your program of study by filling out the link on [this page](#). Here you will list your grades, your coursework, and the title of your dissertation topic (discuss this with your adviser). Your committee will have to sign this sheet of paper and you will submit it to Melanie.

Next you should go to gradforms.osu.edu **before** you complete your proposal (step 1 of candidacy). You will need to fill out the form "Application for candidacy exam" and schedule your verbal presentation (step 3 of candidacy). You must submit the form at least two weeks before your exam date. Contact Melanie Senitko (the coordinator of the BME department) to reserve a room for 3 hours for your verbal presentation, and make sure the date/time is okay for your entire committee.

The PhD candidacy exam at OSU consists of three parts.

(1) You submit to your adviser a proposal around 10 pages that outlines the aims of what you want to complete for your dissertation proposal. This is usually in the format of a grant, with a specific aims page, preliminary data, and detailed discussion on the hypotheses and methods that will aid in testing your overall idea. Some advisors prefer an NIH R21 style, others prefer an NSF style, be sure to check which one to write. You should be working on this proposal for a long period of time; it is not a one-week project or paper. This proposal does not need to be a project that you actually plan to complete, although it really helps if it is.

(2) Your adviser sends your proposal to your committee, and they each have 1 week to read the proposal and send your adviser one, usually multi-part question challenging your proposal. Your adviser compiles the questions and gives them to you after that 1st week. After receiving the questions, you have 1 week to write an additional response to your committee members. Keep your responses to about 1 page per question, be succinct and cite all your sources. The questions are meant to challenge you, challenge your project, and show that you can defend your work with papers and sources.

(3) Roughly one week after you have submitted your response to the committee, you will give a verbal presentation to them that covers your dissertation project. During the week before your verbal presentation you should prepare Powerpoint slides that go over your background, aims and preliminary data for your project. Discuss the length with your adviser, some committees are strict about a ten minute time limit, other can be more relaxed. During the remainder of the two hours after your presentation, you will be answering questions from the committee. They may have follow up questions based on your answers to their written questions, so it may be a good idea to throw in a few extra slides/figures to help answer any anticipated questions.

The day of candidacy you should be nice and provide your committee members with some type of food and drink to snack on while you present. It's not required but is kind of an

unwritten rule. **We unofficially recommend getting some delicious Jimmy John's**, and giving extra to the older graduate students when you're done.

During the presentation, your committee members will probably interrupt you with questions. In some cases, they may agree to hold all questions until the end. You can ask them about it if you're curious. This is the verbal part of the exam and is probably the most difficult part of candidacy. This part is where you will prove that you know your literature and can think on the spot. Remember, they are pointing out the flaws in your proposal and your ideas- it is nothing personal against you. It is meant to be difficult. Prepare yourself as much as possible.

After you have completed the presentation, your committee members will ask you to leave while they debate for 10-15 minutes. Often times, they talk amongst themselves about anything other than your project. They will call you back in the room and address their concerns with your training and presentation, and tell you whether you have passed candidacy or not.

If you pass candidacy, you technically have a Master's (you have to "apply" for one from the Grad School) and you are officially a PhD Doctoral Candidate, which means you can change your CV and email outgoing signature to reflect that. And you can celebrate!!!!

1.3 Post-Candidacy

After your candidacy, your main job is to complete the research project(s) required for your dissertation. To graduate you need to submit 1 first-author paper, be on 3 total research papers and present at any one conference (e.g. on-campus, regional, national, etc.).

In addition to your research, this is the time where you can update your CV, apply for more grants, go to conferences and workshops, and start necessary collaborations that will further your career. It's independent work from this point onward and is the bulk of your PhD training.

1.4 Dissertation and Defense

Your dissertation committee is 80% of the members that served on your regular committee. OSU will sub in a rando prof as the fifth member to make sure that no funny business is going on.

You will write a dissertation over the sum of your work in graduate school, displaying the data and results that you said you would collect when you sat for candidacy, if you're doing the same project. This dissertation should be printed and submitted to each committee member in a spiral bound book. You will get comments and feedback from them at some point. To get help writing your dissertation, consider joining a writing group offered by the writing center [here](#). This will speed up your productivity and allow you to share the experience with a community of other students who are writing their dissertations.

You also need to schedule the following: a presentation to the department during the BME Seminar Series, and a presentation to your committee. You can use the same slides, but if your work is incredibly complicated, it may behoove you to keep it simple when presenting to the rest of the students in the department. You'll have taken seminar for two years, you'll know the deal. The seminar presentation will have other students and faculty, and is best to complete in the month before your defense.

You will also need to go to gradforms.osu.edu and fill out the necessary paperwork to schedule your dissertation defense. After presenting your dissertation presentation to your

committee and the public, the committee will ask the public to leave and will ask you questions on your defense. Then they will ask you to leave, discuss, and bring you back in to tell you whether you have graduated with your PhD or not. The presentation and the whole experience is kind of time-consuming, so your adviser and committee probably will not let you defend if you're not ready.

You will need to submit a final electronic version of your dissertation at gradforms.osu.edu. It's pretty anti-climactic. Consider playing "We are the champions" in the background to keep it spicy.

1.5 Key things you shouldn't forget

- PhD students need 45 research credits to graduate. Every semester you need to email Melanie (the coordinator of the BME department) and get the course number for research with your adviser. After you complete candidacy, you can only take a maximum of 3 research credits per semester/summer. You can get a lot out of the way by taking 4-6 research credits per semester pre-candidacy. Don't forget to email Melanie and sign up for credit! You have to pay fees if you register for the class late. Don't try to fight with the Grad School...
- When you are planning to graduate, schedule your presentation to the department well ahead of time. In the past students scheduled themselves late, and have had to double or triple up to give presentations to the department during seminar and it's kind of annoying.
- Keep your CV and your website updated.
- Keep an eye out for conferences and workshops offered by OSU. This is great experience for you as a PhD student and a great resume builder as well. PhD students go to these more after candidacy when they have something to present.
- There are resources to help you write your dissertation other than just "well sit down and write it." Consider joining a writing group for PhD students offered by the [writing center](#).
- Read Melanie Senitko's emails, and the BME GSA emails, and the OUAB emails. We all have important information to offer you that will help you along the way.

2. Resources

This is a compilation of books, websites, and OSU resources meant to help people with their PhD's. The BME GSA will also host reading groups to read some of these together. These resources are also recommended by the College of Engineering graduate program educators!

2.1 Books

- [Destination Dissertation: A Traveler's Guide to a Done Dissertation](#) - Sonja Foss and William Waters
- [Demystifying Dissertation Writing: A Streamlined Process from Choice of Topic to Final Text](#) - Peg Boyle Single
- [Dissertations and Theses from Start to Finish: Psychology and Related Fields](#) – John Cone and Sharon Foster
- [Getting What You Came For: The Smart Student's Guide to Earning a Master's or Ph.D.](#) – Robert Peters
- [Research Design: Qualitative, Quantitative, and Mixed Methods Approaches](#) – John Creswell
- [They Say / I Say: The Moves that Matter in Academic Writing](#) – Gerald Graff and Cathy Birkenstein
- [A PhD is Not Enough](#) – Peter J Feibelman

2.2 Websites and Blogs

- [Get a Life, PhD](#): “succeed in academics and have a life too”
- [PhD 2 Published](#): “academic publishing advice for first-timers”
- [Research Degree Voodoo](#): “uncovering the secrets, magic and taboos around succeeding in a Research Higher Degree”
- [The Dutch PhD Coach](#): “tips and useful information, meant to help you finish your thesis successfully and in time”
- [Thesis Whisperer](#): “a blog newspaper dedicated to the topic of doing a thesis”
- [Vitae](#): “career management tools, a free dossier service, peer community, jobs, and candid news and advice specifically designed for academics”
- [So long, and thanks for the Ph.D.!](#) “a personal favorite of Mark's, this grad school survival guide touches on a number of very important topics, like soft skills, which are key to success, 'The Parable of the Black Belt,' and the Feynman Problem Solving Algorithm, literally every topic in here has been key to my success”
- [#WHATSHOULDWECALLGRADSCHOOL](#) “seriously, bookmark this right now, grad school sucks sometimes, why not have a laugh at it?”
- [PhD Comics](#) “I'm not kidding, sometimes you really just need to laugh”

2.3 Ohio State Resources

- [Counseling and Consultation Service](#):

Any OSU student on the comprehensive health plan gets 10 free individual counseling appointments. This includes individual counseling, group counseling, and workshops that assist students with stress management, anxiety, depression, relationship problems, transitions in life, identity exploration, feeling overwhelmed, and academic adjustment. Your mental health is nothing to mess with, if you need to talk to someone, talk to someone.

- [Dennis Learning Center](#):

Individual academic coaching sessions help students identify their academic strengths and areas for improvement; common topics include time management, procrastination, study

strategies, and test-taking strategies. Also offers one-on-one and group services to address academic anxiety.

- [Student Wellness Center:](#)

Individual wellness coaching sessions help students attain wellness in all aspects of their lives; key services relate to alcohol, tobacco and other drugs; financial education and coaching; nutrition, fitness, and body image; sex and relationships; and sexual violence.

- [Writing Center:](#)

Online and in-person appointments assist students in all stages of the writing process; writing groups provide a structured setting for students to receive support and exchange feedback; specific groups focus on dissertations, personal statements, and English-language learning.

- [Younkin Success Center](#)

Offers career counseling and career services, as well as individual and group counseling for wellness.

3. Opportunities to keep an eye out for

Research Grant	Helpful Link	Description of Grant	Due Date
Pelotonia (OSU)	Linky link	2-year; cancer	January
NSF	Linky link	3-year; life sciences/ engineering	October

NIH NRSA	Linky link	2-3 year; multiple disciplines	December; April; August
AHA	Linky link	2 year; cardiac research	January
HHMI (OSU)	Linky link	1-year	April

Travel Grant	Helpful Link	Description	Due Date
OSU BME GSA Student Exchange	N/A	Paid travel to present at another university in the Midwest BME Grad Student Consortium	February
OSU BMES Travel Award	N/A	Paid travel to present at BMES in the fall	April
Ray Travel Award	Linky link	Paid travel to any conference / workshop	June, October, Feb
Fulbright	Linky link	Paid abroad experience in research or teaching	October
Whitaker International	Linky link	Paid abroad experience in BME research or teaching	January, February depending on program

*For information on Global Gateway, contact Lauren at cosby.17@osu.edu

4. Other departments to collaborate with

Note: this is a brief list of other departments that have supported BME students before. It's not an exhaustive list, but if you're looking for relevant experience in one of these other fields, talk to one of the BME GSA members and we'll be able to point you in the right direction.

4.1 Fisher College of Business (Fisher)

Every year Fisher hosts a two-semester course called "Technology, Entrepreneurship, and Commercialization." The class typically meets on Monday evenings and you can receive credit for this course as a BME elective. The course puts you in groups with other engineers and business students, and has you evaluate several OSU technologies and develop a business plan for them.

Mid-way through the first semester, the OSU Business Plan Competition puts out a call for

applications from graduate and undergraduate students. This competition is separate from the entrepreneurship course but being in the course gives you some support that you might not otherwise have. You may submit to this competition with your group in the Fisher course, or form an entirely new group with your own technology. The Business Plan Competition requires a written business plan (including description of the technology and a plan for finances/ profits) and a verbal presentation. The second semester of the Fisher course also supports students who are going through the OSU Business Plan Competition (or other BPC's) and provides them critiques and resources as needed.

BME students generally end up being involved in the OSU Business Plan Competition every year and are among the top finishers. This path is really recommended for anyone who wants to start their own business or bring their own technology to market.

4.2 Mathematical Biosciences Institute (MBI)

The MBI is located on Neil and 12th and is a leading research group in the United States for mathematical biology. They offer workshops and conferences for students interested in computer modeling and mathematics applied to biology. More information can be found [here](#).

4.3 Bioinformatics Department

The Bioinformatics Department is located in Lincoln Tower. There are many professors in biomedical informatics that collaborate with the James Cancer Hospital and have interest in "big data" research. They offer relevant coursework and seminars open to BME students. More information can be found [here](#).

*For information on collaborating with global health / pharmacy programs, contact cosby.17@osu.edu

5. Managing money

5.1 Resources on campus

If you are in need of specific financial knowledge, OSU has resources available to any graduate student. One-on-one financial coaching is available [here](#). OUAB offers seminars as well, and OSU BME GSA may host seminars on personal finance in the future.

5.2 Budgeting

Our current graduate students unofficially recommend Mint.com for managing money and keeping track of your spending.

5.3 Retirement planning

OPERS is the retirement system that you can be enrolled in as a graduate student. A portion of your paycheck will be taken out each month and OSU matches this portion. There are stipulations on how long you have to stay in Ohio in order to see the matching portion. More information is available [here](#). You can opt out of OPERS right when you start as a first-year graduate student, but if you opt out you cannot opt back in unless you leave Ohio for a year and

then re-start your resident status here. You will have to make this decision soon, so get on the phone and ask people to see if it is the right choice for you.

Regardless of your OPERS status, anyone can still contribute to a Roth IRA by making account with a known retirement company (example: Fidelity, Edward Norton, Charles Schwab). This option is generally recommended for graduate students in this tax bracket. You can get more information about this through the one-on-one financial coaching.

Note: your contributions to OPERS and Roth IRA's change if you win a fellowship from NIH or NSF, since you become an employee of the government instead of an OSU employee.

5.4 Legal services fees

As a graduate student, you automatically pay \$66 per year to access Legal Services. They're really helpful for disputes with landlords and other legal issues. If you are not interested in taking advantage of this resource, you can waive the legal fee [here](#).

5.5 Health insurance plans

August 18th is the day to select or deny participation in the OSU Health Insurance Plans. If you did not deny participation, you were automatically enrolled in the student health insurance and a portion of your paycheck will go towards that. More information on coverage is [here](#). That link also covers what to do if you would like to deny health insurance after August 18th. You'll have to provide proof that you are covered under some other health insurance and go through some paperwork, but it is still possible to deny it.

Remember, everyone under 26 can stay on their parent's healthcare plan if you choose to do so. [THANKS OBAMA.](#)

5.6 Taxes

The Fisher College of Business offers a tax clinic every year if you want help filing taxes. More information can be found [here](#).

6. Adviser- student relationships

Things may not always go as planned. There are many people to talk with if you have a dispute with your adviser. Feel free to talk to one of the older graduate students on the BME GSA board, or speak with Melanie Senitko (the coordinator of the BME department). We can help you address these conflicts as they come up. Come to us sooner rather than later so that things don't snowball, and don't worry because conflicts can be easier to solve than they may seem.

7. Jobs

OUAB offers many seminars that will help with career planning both in academia and outside of academia. The best thing you can do to take advantage of these seminars is (1) read the weekly OUAB email, and (2) occasionally check their calendar [here](#).

In addition to this, OSU offers one-on-one career planning services and career workshop series at the [Younkin Success Center](#) and [Engineering Career Services](#). Keep up-to-date with their events as well.

8. Fun stuff to do at OSU

OUAB programming

OUAB has everything fun you could possibly need:

- free cooking classes
- speed dating
- cupcakes
- exercise classes
- visiting a glass blowing studio
- MUCH MUCH MORE

READ THEIR EMAIL! You get their emails every week. To get a better idea of what they have planned for the semester, go to [their website](#).

food trucks

[Food trucks](#) visit OSU every day of the week. They're very popular and deeeelicious.

dtix

As an OSU student you get discounted tickets to various events in Columbus. To enter the lottery for a discounted ticket, you should keep an eye on [the dtix website](#) and sign up for the lottery for each event whenever they are open.

Dtix also offers general discounted tickets every week, which are made available every Monday morning and are given until they sell out.

The gym

The recreational and gym facilities on campus are free for graduate students to use. For information about student life's recreational events, go to their [website](#).

Don't forget to take advantage of the [indoor rock climbing gym](#), or the [free fitness classes](#), or one of the weekend [adventure trips](#) offered.

Football schedule

People like football here. Sometimes we tailgate. [Here is the football schedule](#). Good luck driving to campus when there is a home football game.

Clubs

OSU has a truckload [of student organizations](#). Most of these are undergrad based but everyone welcomes grad students.

The best club around is OSU BME GSA.

The second-best club is [OSU Triathlon](#).

To get free food and a better idea of which clubs might interest you, consider going to the Student Involvement Fair on the Oval on Sunday August 23rd from 5pm-8pm.

OSU Athletic Events for Charity

Many people raise money for research institutions that BME students work in. To help raise money too and participate in some really cool athletic events, consider participating in...

- [The Nationwide Children's Marathon and Half Marathon](#) (October)
- [Pelotonia](#) (bike ride 25, 50, 75, 100, 155, or 180 miles) (August)
- [The Ross Tri Fit Challenge](#) (mini, sprint, and Olympic triathlon) (July)

9. Fun stuff to do in Columbus

[Columbus Mega Weekend](#) provides up-to-date information every Thursday afternoon for the upcoming weekend! For other information, consult the following links:

Music venues

- [Natalie's Coal-Fired Pizza and Live Music](#)
- [Brothers Drake Mead and Music](#)
- [Columbus Symphony Orchestra](#)
- [Newport](#)
- [LC Pavilion](#)

Festivals

- Fall
 - [Greek Festival](#) (September)
 - [Microbrew Festival](#) (September)
 - [Highball Halloween](#) (October)

- Other times of the year:
 - [Columbus Beer Fest](#)
 - [Asian Festival](#)
 - [Pride Festival](#)
 - [Comfest](#)
 - [Doo Dah Parade](#)
 - [Jazz and Ribs Fest](#)
 - [A Taste of Hungary](#)
 - [Serbian Festival](#)
 - [Ohio State Fair](#)
 - [Other](#)

Dance

- [Salsa classes](#) (closing soon)
- [Swing dance classes](#)
- [Argentinian tango classes](#)
- [Heatwave Dance Party](#)
- [Damn Girl Dance Party](#)

Theater

- [CAPA](#)
- [shadowbox live](#)
- [wild goose creative](#)
- [short north stage](#)

Art Gallery Events

- [Short North Gallery Hop](#)
- [Grandview Hop](#)
- [Franklinton Fridays](#)
- [Moonlight Market](#)

Food

- [Alternative Eats](#)
- [Restaurant Week](#)
- Hot Chicken Takeover (best fried chicken sandwich in town)
- Yelp is a big friend.

Fancy Pourover Coffee

- [Mission](#)
- [Impero](#)
- [Boston Stoker](#)
- [One Line](#)
- [Fox in the Snow](#)

Shopping Centers

- [Easton Town Center](#)
160 Easton Town Center, (614) 416-7000
- [Polaris Fashion Place](#)
1500 Polaris Parkway, (614) 846-1500
- [Lennox Town Center](#)
1755 Olentangy River Road, (877) 225-5337
- [The Shops on Lane Avenue](#)
1675 W Lane Ave, (614) 481-8341
- [The Mall at Tuttle Crossing](#)
5043 Tuttle Crossing Blvd, (614) 717-9604

Professional Sports

- [Clippers](#) (baseball)
- [Crew](#) (soccer)
- [Blue Jackets](#) (hockey)

Independent Cinema

- [Wexner](#)
- [Studio 35](#) (has Bad Movie Nights!)
- [Gateway](#) (has beer tasting + movie events, and you can watch some TV shows in cinema)

Local microbreweries / distilleries

- [Rockmill Brewery](#)
- [Zauber](#)
- [Columbus Brewing Company](#)
- [North High Brewing](#)
- [Elevator](#)
- [Middle West Spirits](#)
- [Watershed](#)
- [Brother's Drake](#)

Cycling

- [Tuesday night ride](#)
- [Year of yay bike rides](#)
- [Paradise Garage ride](#)
- [Mayor's ride](#)

Running

- [Columbus Running Company](#) has a weekly run on Saturdays at 8am from their High St location
- [Grandview running club](#) meets every Tuesday in Grandview.
- There is also an OSU running club that meets on Tuesdays.

Hiking

- [Hocking hills State Park hiking](#)
- [Alum Creek State Park- beach and hiking](#)

Meetups

- When in doubt, go to [Meetup Columbus](#) and peruse all the different groups meeting up across town. If you're interested in it, it's probably here.

Other stuff

- [columbus zoo](#),
- [zoombezi bay](#), (water park)
- [COSI after dark](#) (science museum program for adults)
- [Lynd's Fruit Farm](#)
- [Vertical adventures](#) (rock climbing)
- [Columbus Idea Foundry](#) (woodworking and other classes)
- [Franklin park Conservatory](#) (botanical garden)
- [Kafe Kerouac Spoken Word](#)
- [Columbus Outdoor Pursuits](#) (every outdoor event you could think of)
- [Topiary Park](#) (it's a cool park)

10. A few final thoughts/ramblings

Grad school is really just a marathon in disguise. In undergrad, you take classes and probably have a research project or two along the way, but it's very different from grad school. In undergrad, a class lasts no longer than a semester, maybe a year for certain classes. Even if you were heavily involved in research, it was only a part of your overall academic commitment next to classes and extracurriculars. In essence, each of these things was like a sprint. Who's ever waited until the last week to do a semester long project? *Raises hand shyly* That doesn't cut it here, you have to pace yourself. You don't do yourself any favors by burning out after your first year and struggling along miserably through the rest, or even not finishing. This is where balance comes into play. Seriously, I've been that guy that goes for a month or so only leaving the lab to get food (read: coffee and donuts) or a few hours of sleep at a time. You can get a lot done, but after so many hours a week, your efficiency and fulfillment in life really drops off. Take it from me: *sometimes*, it's better to do more with less. And it is ok to have a hobby.

There's also the problem of the "undergraduate mentality." As an undergrad, you're mostly asked to demonstrate what you can do. This is typically evaluated in courses with projects with well defined, step-by-step parameters. You turn it in and earn a high letter grade, yay, good grades. In graduate school, you ask the questions and you constantly defend why those are good questions to ask. In doing so, you'll be tasked with determining how to answer these questions, and then you'll be meta-defending why that was a good way to answer it. That

means you're finally liberated from the project/homework sheets with clearly defined steps 1-15, for better or worse. Your adviser will probably tell you what to do at first, but the initiative is on you. You have to own your research, especially as you get older and more skilled. There will be times when you might spend a whole week thinking about how to solve a problem that your adviser considered a few times while sorting through his or her pile of email. It's ok to give your adviser *some* push back as you gain experience, it's probably even highly advised (nailed that one...). Aside from research, you take courses, but the classes aren't *really* important so long as you pass. Well, that's probably putting it too harshly. I'll let you decide for yourself. But most fellowships don't strongly consider your graduate GPA so long as it is reasonable, and the lower limit on the prestigious final year University fellowship is somewhere around a 3.6. This is not to say that mastery of topics relevant to your work isn't important, like statistics or physiology for example. Furthermore, classes are often a chance to make strong first impressions on, and build lasting relationships with faculty members who will be sitting on your committees and who will be your future peers. Simply put, grades are not how you will be evaluated as a Ph.D. student. It's all about the research, baby. Papers, conferences, fellowships, collaborations, awards, grants, adviser recommendations and all that fun stuff. Get it done. Break free from the undergraduate mentality early and see more success over your career.

One key tip I received early was to apply for as much stuff as you possibly can. Even if you don't win, it's still a great opportunity to practice grant writing and put yourself in a better position to win the next one. You may not win the NSF GRFP, but you may impress your adviser with your writing skills, scientific maturity, and ability to thoughtfully develop a rationale and methodology to answer a unique question. Also, talk to people that have won the award already. Some people in our department are very nice and would even send you some of their application materials for reference, or send you very long emails telling you what to do to maximize your chances of success. Email one of us if you're thinking about applying for something, or even on the fence. We can put you in contact with someone that has been there before. I've definitely won a fellowship that I may not have even applied for if I hadn't talked to people that had previously won.

Your relationship with your adviser is key, and you should probably practice managing your manager, but you'll have to read some books or free stuff on the internet for more on that. I just want to tell you about the other mentored relationships. There are a ton of intelligent people at this university, and your job is to glean as much as you can from as many of them as you can. You'll learn a lot from your adviser through proximity, but it's very useful to develop relationships with collaborators and other members of your department who have different perspectives on things. Everyone eats lunch. Ask a professor if you can meet/talk over lunch, or bring lunch to them if they're a tough one. You may have a young adviser, and you want to see the perspective of someone who's been in academia longer, or vice-versa. Or maybe you have a problem with someone in your lab, but don't want to take it to your PI. Maybe you just know you're going to need a recommendation down the road. There are a number of scenarios where it's useful to have relationships with others in your department. Also, the department staff members do a lot to help us out behind the scenes, make sure to say thank you.

Lastly, grad school is difficult in some ways that are necessary and in some ways that are not as necessary. If you see something that can be improved, no matter how big or small, let us know. We are here for you, after all.

11. What OSU BME GSA Needs from You

Participate

Participate in our events and give us feedback.

Engage

Get other people to participate too.

Engineer

Be a good BME. Make us proud in your classes, in your lab, and outside of OSU.

Volunteer

We will need volunteers over the course of the year to work at events hosted by Engineering Council. This is fundraising for us - we're a new organization so fundraising is really really important. We get paid by Encouncil for these volunteer hours and then we get to use that money to host more events for you guys. We need as many volunteers as possible!

Keep reading your email, come talk to us, and good luck at OSU.

Love,

BMEGSA