

First Year Review

June 4, 2018 Dominic Tong Jon Muncie

First Year Review – June 1, 2015







First Year Review – June 4, 2018





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Today:

12:30 – 1:30 PM	First Year is Over! What's Next?	Jon Muncie and Dominic Tong, BEAST Co-Presidents
1:30 – 2:30 PM	How did first year go? Feedback and discussion session	Ali Su, Head Peer Advisor Allison Drain, ex-Head Peer Advisor
2:30 – 3:00 PM	Introduction of BioE Executive Committee Faculty feedback	Prof. Ian Holmes, UCB Head Graduate Advisor Prof. Todd McDevitt, BioE Executive Committee Co-Chair



What do I do in second year?

- Complete your coursework
- Graduate Student Instructor (GSI)
- Present at retreat!
- Qualifying Exam
- Get funding
- Start figuring out what you want to do when you grow up!
- Resources



Use the correct program logo and name!

- University of California, Berkeley and University of California, San Francisco Graduate Program in Bioengineering
- For short, "UC Berkeley-UCSF Graduate Program in Bioengineering"



USE THIS LOGO FOR EVERYTHING.

On completing first year and what is next.

Muncie, J.¹ and Tong, D.¹

¹ University of California, Berkeley and University of California, San Francisco Graduate Program in Bioengineering



Complete your coursework

Area	Semester Units	Quarter Units
Anatomy, Physiology and Biology	9	13.5
Biochemistry, and Chemistry beyond General Chemistry	3	4.5
Engineering in a traditional discipline and Computer Science	7	10.5
Mathematics (beyond linear algebra and differential equations) and Statistics	2	3.0

Area requirements can be fulfilled by previous coursework (upper year undergraduate, masters) or by courses in your major/minor.

- MAJOR (16 semester/24 quarter units)
- MINOR (8 semester/12 quarter units)
 - You design your major/minor
 - Resources: BEAST Wiki (ucbeast.berkeley.edu), your research mentor, your lab mates, upper year students, graduate advisors, etc.



Graduate Student Instructor (GSI)

- You MUST GSI at least once!
- Berkeley: Kristin sends out applications around May for the Fall, and Oct/Nov for the Spring
- UCSF: Talk to SarahJane or directly with the professor
- USF (near Parnassus): Often lab-based courses
- <u>http://ucbeast.berkeley.edu/academic-resources/course-information/teaching-information/</u>



Present your research at retreat

- Presenting a poster or a talk each year at retreat is strongly recommended
- This is your chance to present your lab's work, your proposed work, or your already done work to a low pressure audience!
- Retreat 2018 is October 26-28 at Asilomar Conference Grounds



The Qualifying Exam - Purpose

- "Students [should] demonstrate their ability to recognize and attack research problems of fundamental importance, to propose appropriate theoretical, experimental or computational approaches to address these problems, and to display comprehensive knowledge of their disciplinary area and related subjects" – BioE Handbook
- Are you ready to initiate a research project and work it through to its conclusion?



Timeline





Timeline

6 months out:

• Discuss the time, scope, and possible committee with your mentor

3 months out:

- Choose your committee chair and other members
- Meet with your chair to discuss the exam
- Schedule the exam date with your committee
- Draft your written research proposal



Timeline

2 months out:

- Meet with committee members
- Draft presentation
- Reserve a room for at least 3 hours
- Schedule practice talks with your lab and collaborating labs
- Submit forms 6 weeks prior to exam!

1 month out:

- Submit final written research proposal to committee
- Schedule 1-2 BESTs (give yourself at least a week before your qual)
- Start studying the details



Parts of a Qualifying Exam

- Committee
- Written Proposal
- Oral Part 1: Research Proposal
- Oral Part 2: Area/Stats/Ethics



Committee Structure



- Must be members of their campus Academic Senate
- Must represent both biology and engineering
- Exceptions may be considered by petition to Head Graduate Advisors
- List of core members: bioegrad.berkeley.edu/faculty



Choosing Your Committee

- Ask for suggestions from your PI, your lab, other BioE's, grad advisors, etc.
- Committee members:
 - You don't need to know them already
 - Don't have to be directly in the field of your project (adjacent fields are great)
 - Should have different areas of expertise
 - Nice people are usually better
- Sometimes emailing will not work, so try secretary/office hours/group meeting/asking your friend in that lab when their PI is around



Meeting With Your Committee

- Meeting with your chair
 - Discuss the "philosophy" of the exam
 - Hypothesis driven or aim driven? Do you need preliminary data?
 - Exam format
 - Scope of project
 - Getting your paperwork from SJT or Kristin before quals
- Everyone
 - Articulate your aims for feedback
 - Not knowing all the answers is ok here it isn't your exam yet!
 - What questions should you expect from their subject area?
 - Inform them of the exam format (not everyone is in BioE or has sat on a qualifying exam committee before)



Forms

UCSF: <u>https://graduate.ucsf.edu/forms/</u>

UCB: http://grad.berkeley.edu/academic-progress/forms/

Before:

- Application for Qualifying Exam
- Petition (if one of your committee members is not on the academic senate)

After:

- Report on Qualifying Exam (UCSF only)
- Advancement to Candidacy application



Written Proposal

- Spans 6-12 months of work
- Typically about 4 pages in length
- Formatted like a grant
 - Research Background and Significance
 - Hypothesis and Specific Aims
 - Preliminary Work
 - Research Design and Methods
- Send to your committee members 1 month out
- Bring copies to your exam for committee to reference
- Look at old proposals as a resource



Day of your Qualifying Exam

- Part 0: Get kicked out
 - You get kicked out for 5-10 minutes while the Chair discusses the exam format with the committee
- Part 1: Research proposal talk
 - 15 minute presentation
 - 12-15 slides
 - Expect lots of interruptions and questions; will take 1-2 hours
- Part 2: The other stuff (might be folded into Part 1)
 - Related work questions about subjects in your major/minor
 - Ethics and statistics
- Part 3: Get kicked out, iteration 2
- Part 4: Decision/Recommendations



Day of your Qualifying Exam

- Arrive early
- Make sure the room is arranged well
- Make sure the A/V works
- Optional: bring coffee/beverages/snacks don't need to go over the top, but bringing a little something is a nice touch



General Guidelines

- Keep your answers concise and move on!
- Be willing to say "I don't know", but propose how you would find the answer
 - Avoid using vague language
- Be prepared to be interrupted
- Keep your slides simple active titles, good transitions
- You get 4 experts in your field trapped in a room with you for 2-3 hours. Use this opportunity to get feedback and learn about your field!



Oral Examination Part 2: Area/Stats/Ethics

 "Part II consists of questions exploring relevant areas of science and engineering, usually related to subjects of the major and minor identified by the student. Also included are questions pertaining to statistical and ethical aspects of Bioengineering. Part II of the exam typically takes 15-30 minutes." – BioE Handbook



Giving a good talk

- Use effective redundancy
- Maximize signal to noise ratio
- Adapt to your audience
- Each slide makes a clear point
- Each slide transitions neatly to the next slide



Transitions!

- Really practice how you're going to transition from one slide to the next
- Realize that on almost every slide you'll have been stopped to answer a question (or many) and end up off on a tangent, be prepared to restate the main point you wanted to make and move to the next slide
- Be ready/comfortable to be out of the "flow" of a rehearsed talk



Good slides, bad slides

I say this is a bad slide because it isn't very much to the point as it is very wordy and a huge run-on sentence but I don't really care because at this point the audience is completely asleep anyway because they are trying to read this entire slide while listening to me but I'm not really making any point at all here so this is, in fact, a completely useless and terrible slide except for the fact that I'm using this slide to make the point that bad slides are too text-heavy and cluttered and don't get the point across, so is this actually a good slide by that definition? I'm not exactly sure, but I'm sure the audience will totally remember this slide. Will you remember anything from this slide?



Less is more

- For images/data as well as words
- Fight the urge to "flex"



Advancing to candidacy

- Fill out your forms
- Submit forms to SJT/Kristin
- Fee is usually covered by your lab (no fee if UCSF-based)
- Non-resident tuition gets waived!
- Many fellowships and awards require advancement to candidacy, silly to delay!



Resources and helpful links

BEAST Wiki	ucbeast.berkeley.edu
BioE Handbook	bioegrad.berkeley.edu
Head Graduate Advisors	Christoph Schreiner (UCSF) Ian Holmes (Berkeley)
BioE Administrators	SarahJane Taylor (UCSF) Kristin Olson (Berkeley)
Your Mentor	
Other Students*	*If in doubt, refer to the Handbook or ask SarahJane or Kristin!
Other Faculty	



Getting funding

- NDSEG
- NSF GRFP only if you did not apply in your first year
- Hertz Fellowship in cases of "exceptional leverage"
- NIH F31 this is pretty much a full-fledged grant application
- Field-specific fellowships and grants ask your PI and around your lab
- UCSF Grad Division Fellowships if UCSF-based, easy application
- Email digests from Berkeley Engineering and UCSF Grad Division



Getting funding

Keys to success:

- Start early
- Set a timeline for yourself
- Talk to your friends/colleagues who have been successful
- Ask for help
- Keep at it!



Questions about life outside the program

Taxes? Where to live? Transportation question?

- Your peer advisor!
- Other upper year students (we don't bite!)
- BEAST Wiki (ucbeast.berkeley.edu)

Legal issues (rental contract, landlord is unreasonable, etc)

- http://sa.Berkeley.edu/legal
- http://success.ucsf.edu/community-legal-resources
- Free legal consultation for students

Difficulties adjusting to grad school, dealing with family or relationships, sexual orientation or identity, coping with personal crises. I'd like to speak with someone confidentially.

- https://uhs.berkeley.edu/counseling
- https://studenthealth.ucsf.edu/healthcare-services/counseling-psychologicalservices

My question isn't here!

There are a lot of resources available to you as a student of both Berkeley and UCSF, and we can't list them all. Talk to someone you trust to figure out what is best for you.



Questions about your thesis/the program

It's field specific (courses, resources, etc.)

- Your graduate advisor
- Your Pl
- Other professors in your field
- Your lab mates

Administrative (fellowship, forms, dropping classes, etc.)

- Berkeley-based: Kristin Olson
- UCSF-based: SarahJane Taylor

The person I'm supposed to go to doesn't make sense (awkward/conflict of interest, etc.)

- Ask Kristin or SarahJane about who to ask
- Ask your PI or graduate advisor

I have a conflict with my PI and need an outside opinion

- Your graduate advisor
- Head graduate advisor
 - UCB: Ian Holmes
 - UCSF: Christoph Schreiner
- Won't disclose your conversation without your permission



What do I want to do when I grow up?

UC Berkeley	UCSF
BEAST Alumni Speaker Series	BEAST Alumni Speaker Series
SLAM (Science Leadership and Management) http://qb3.berkeley.edu/slam/	GSICE (Graduate Student Internships for Career Exploration) gsice.ucsf.edu
Beyond Academia (career conference for graduate students) beyondacademia.org	MIND (Motivating INformed Decisions) mind.ucsf.edu
Postdoc industry exploration program piep.berkeley.edu	UCSF Entrepreneurship Center ita.ucsf.edu/entrepreneurship-center
MCB 295 (panel discussions weekly) mcb.berkeley.edu/course/mcb295/index.php	UCSF Consulting Club Consulting.ucsf@gmail.com
	UCSF Office of Career and Professional Development (OCPD) career.ucsf.edu



Questions?