

Nuts & Bolts of Grad School

August 3rd, 2021



Facilitators: Elena Suglia (she|her|hers)
Hannah Nelson (she|her|hers)

Preview Day Organizers & Presenters



Alexis
Roberts



Danielle
De La Pascua



Darien
Satterfield



Claire
Murphy



Kiera
Monuki



Katherine
Corn



Sivan
Yair



Elena
Suglia













Madison
Armstrong



Hannah
Nelson



Elise
Elwood

	Mon	Tues	Wed	Thurs	Fri
Week 1	2	3  Nuts & Bolts of Grad School	4	5 Personal/Diversity Statement Workshop 	6
Week 2	9	10  How to Apply & Timeline	11	12 Office Hours 	12
Week 3	16	17  Funding & Grant Writing	18	19 Navigating Grad School Identity Panel 	20
Week 4	23	24  Find a Good Fit	25	26 Office Hours 	27
Week 5	30	31  Is this Right for Me?	1	2 Wrap-Up! 	<i>All sessions will be 5:00-6:30pm PST via Zoom</i>

Session Scope & Facilitator Roles

Scope

90 minute workshops are an introduction, with resources to dig deeper!

Roles

We are peer facilitators, here to help guide participants' discovery.

Session Norms



Please have video on, if possible



Stay muted unless speaking



Use the “raise your hand” feature or chat us if you have a question or comment



Be respectful, be curious

Session Goals

By the end of the session, participants will be able to:

1. Understand the structure of a graduate program
2. Differentiate between types of graduate programs
3. Use our framework to start making decisions about pursuing graduate school

Warm-Up Activity

Identify one question or concern you have about graduate school



Warm-Up Activity

Identify one question or concern you have about graduate school



Introduce yourself and share that question or concern with your breakout group



Outline

1. What is graduate school?
2. What are the different types of graduate programs?
3. Daily experience of a grad student
4. What is the structure of a graduate program?
5. Grad school vs a “traditional” day job

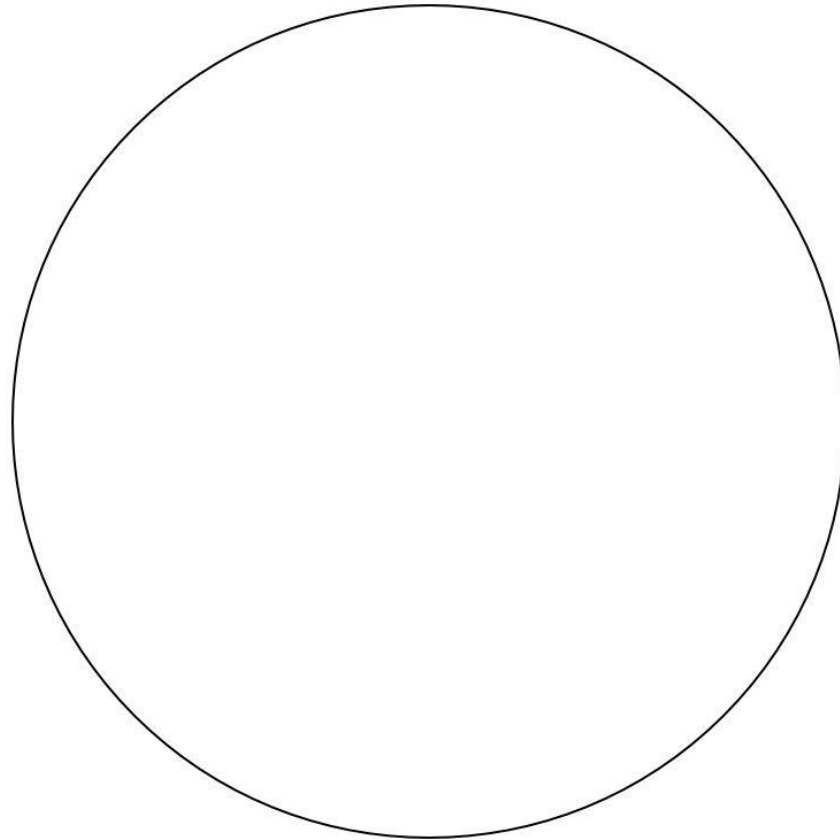
Outline

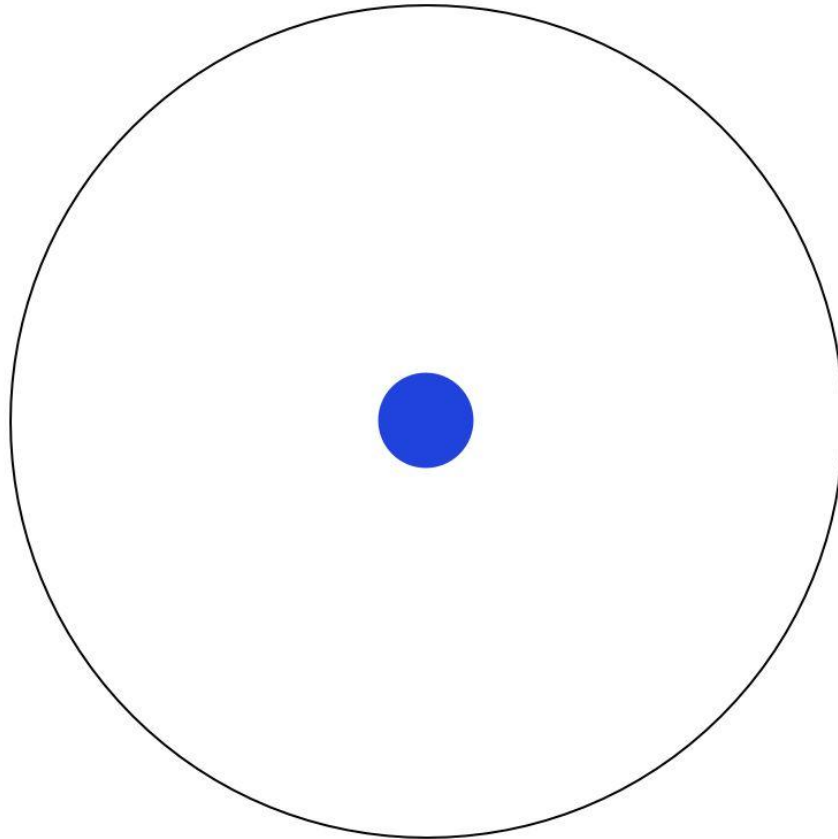
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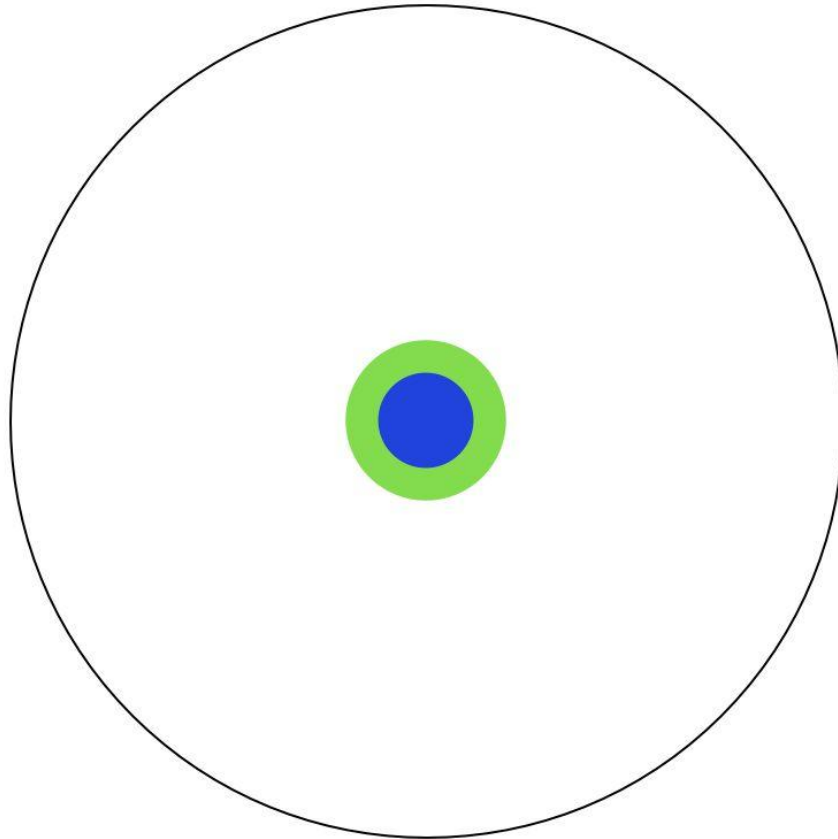
What is graduate school?

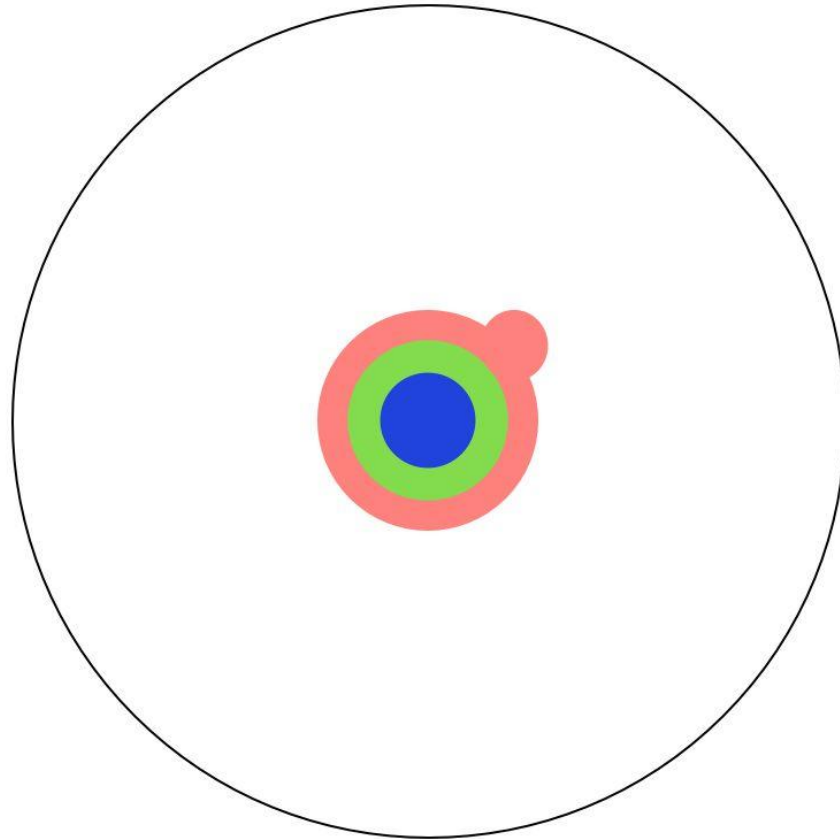
- Research a specific topic and become an expert on it
- Learn from classes, doing projects, and mentorship

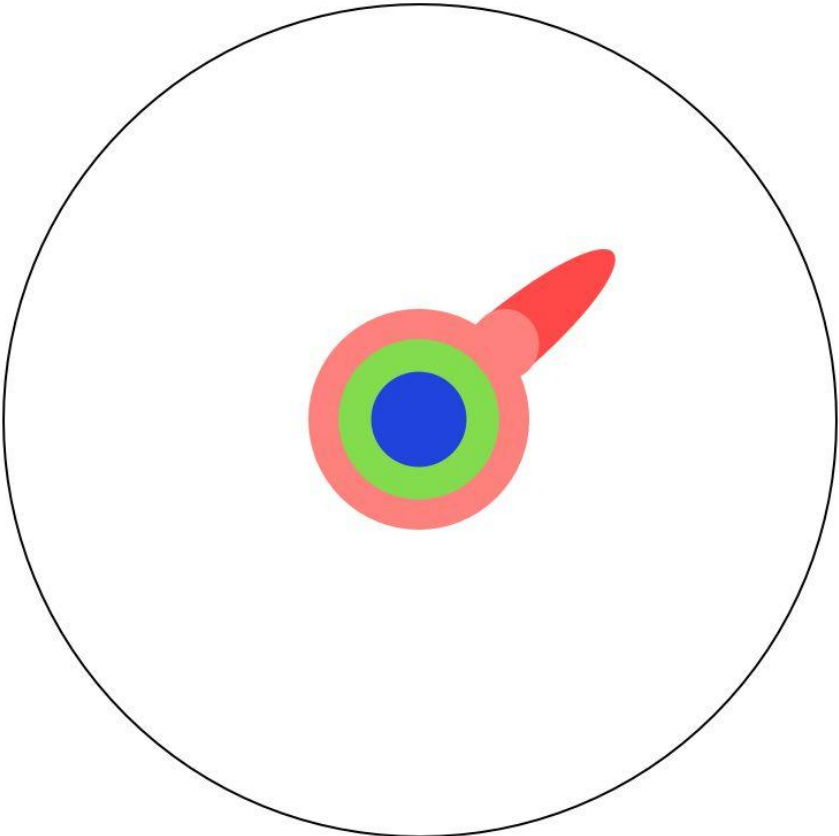
... and much more!

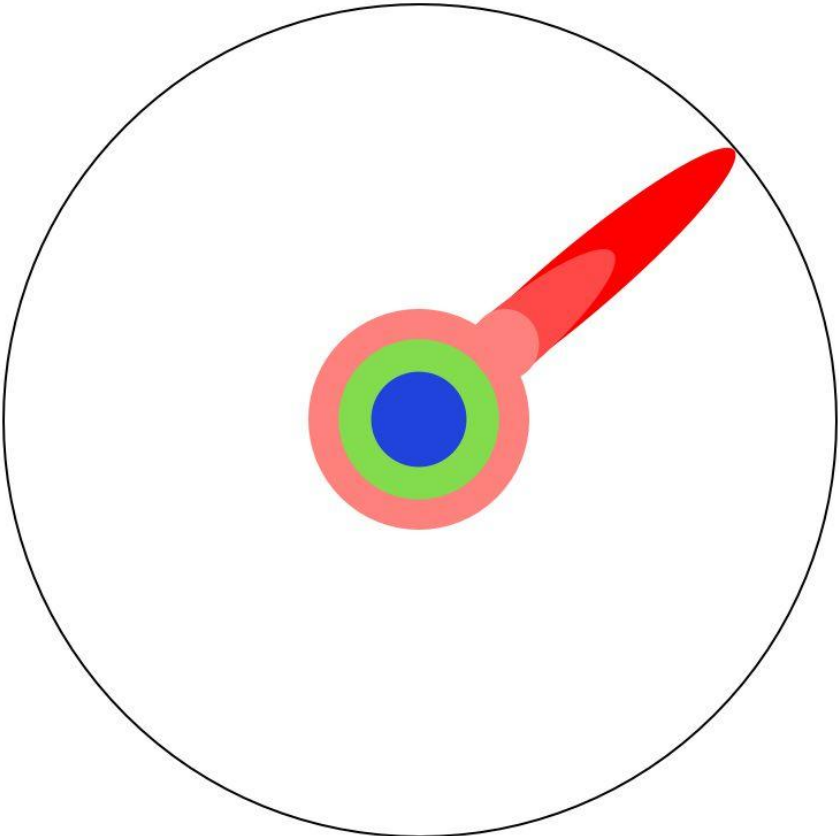


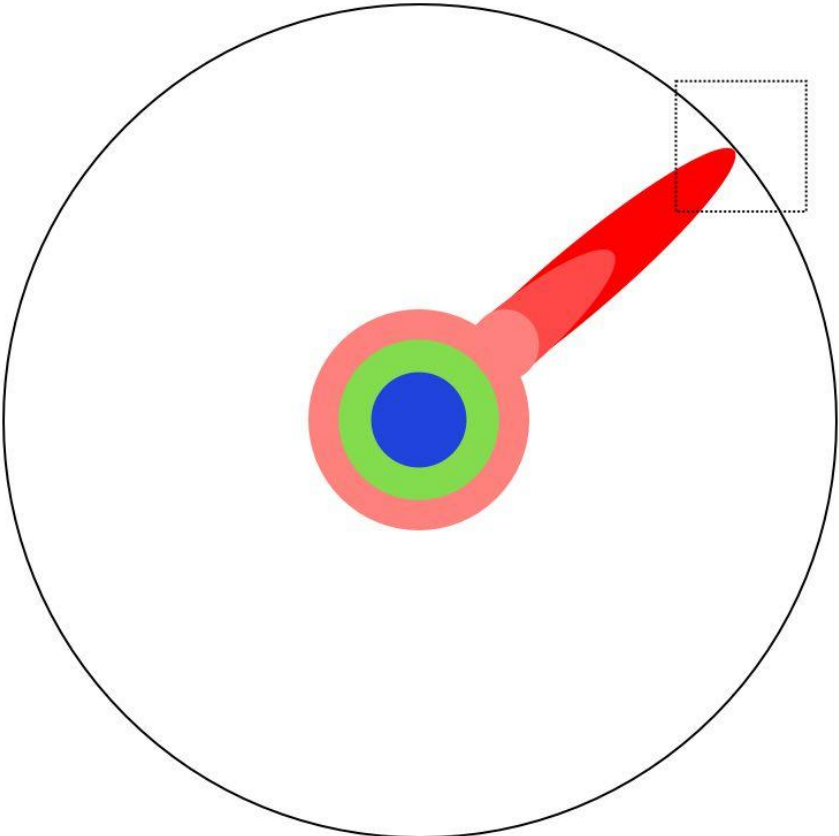


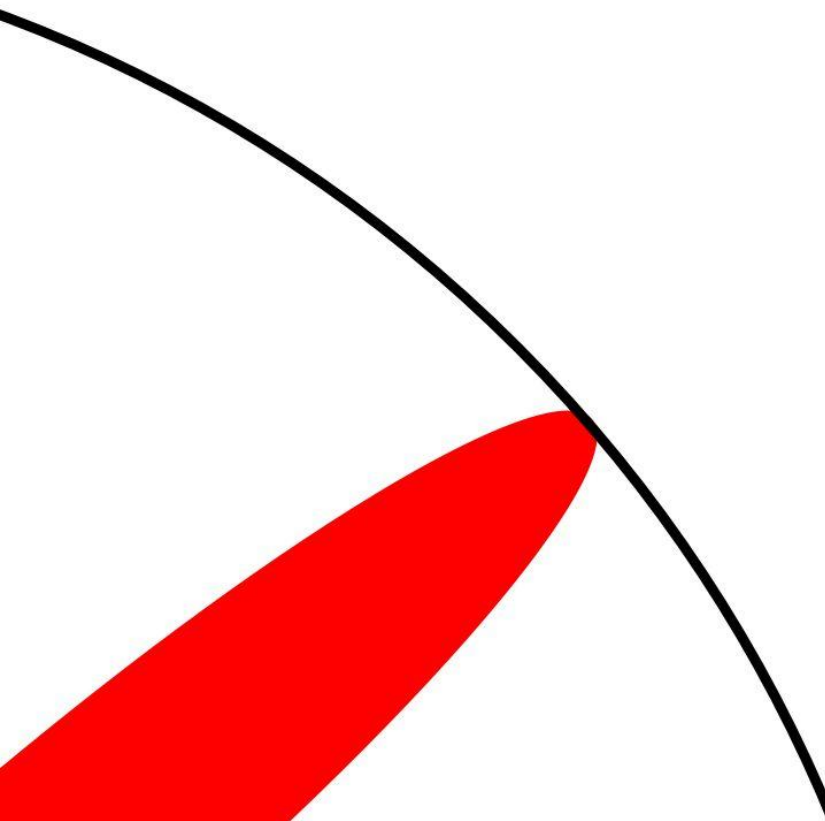


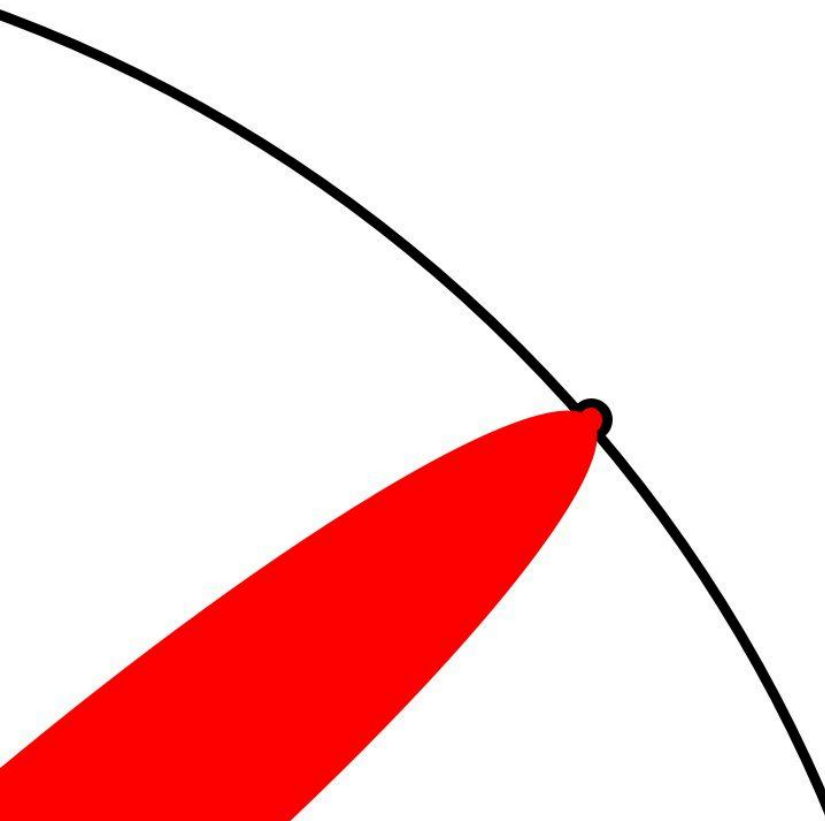


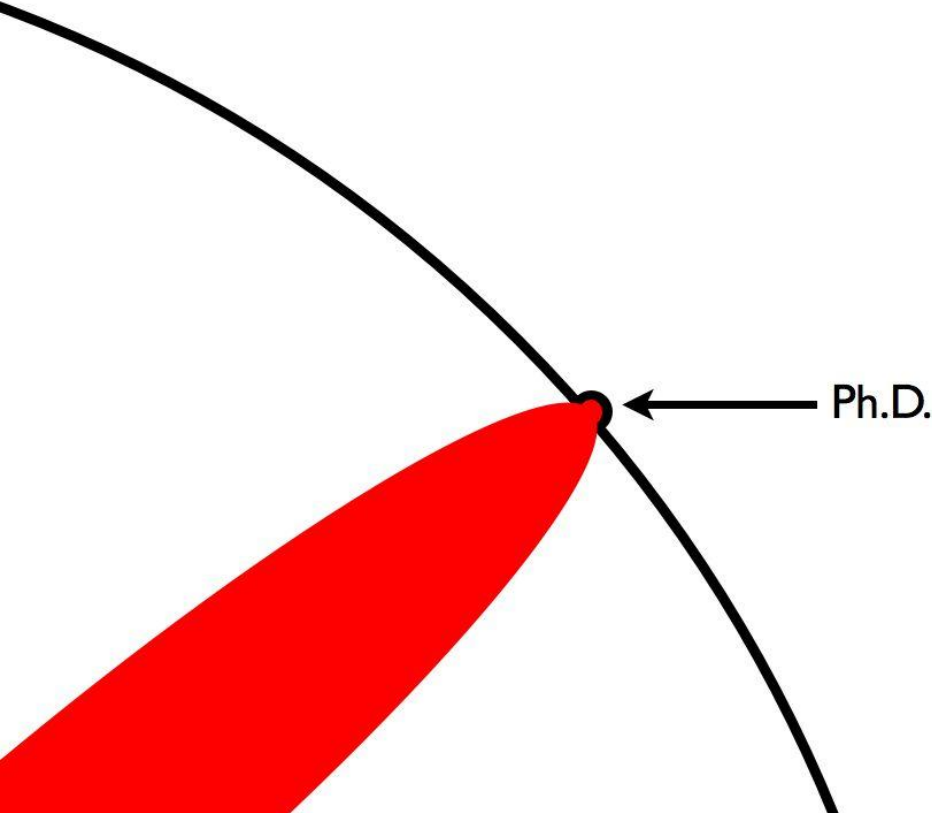


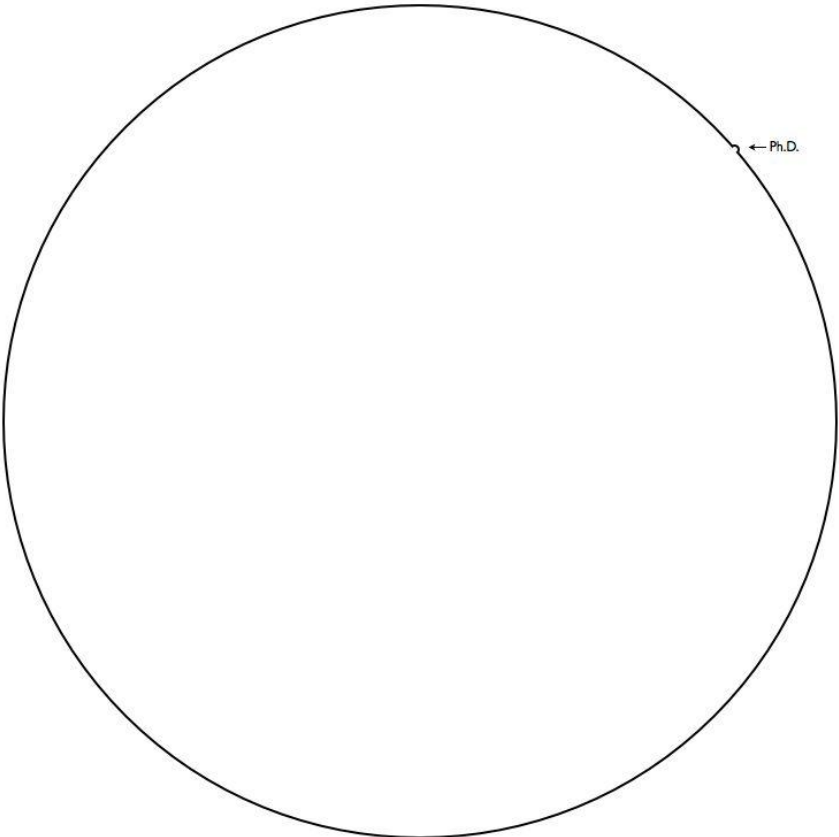












Keep pushing.

What will you learn to do in a PhD?



Make scientific discoveries



Communicate your findings



Teach college students



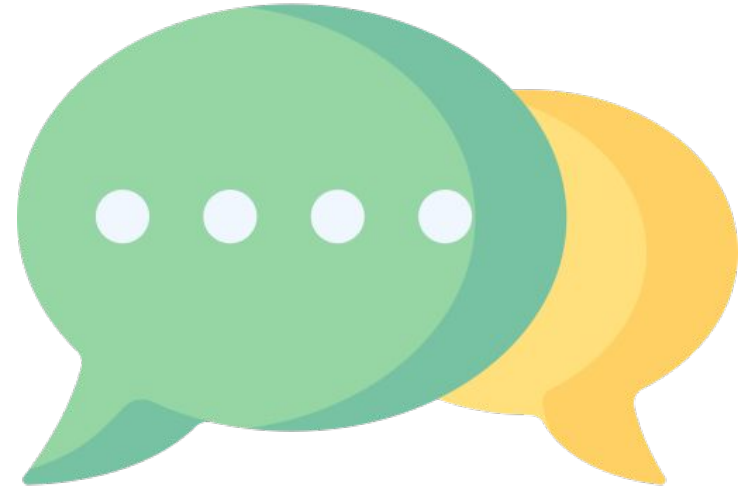
Write grant proposals

Outline

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How do PhD & Master's Programs Differ?

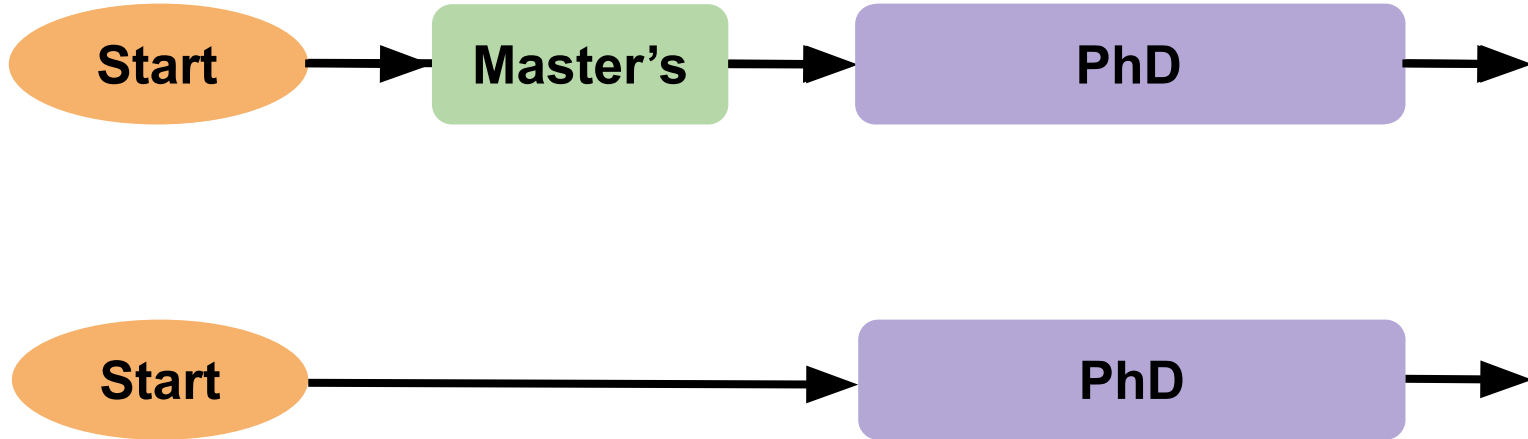
***Post an idea
or two in the
chat!***



Category	Master's	PhD
Length	2-3 years	5-7 years
Depth	Relatively in-depth	Very in-depth
Funding	Sometimes not funded	Generally funded
Prestige	Relatively prestigious	Very prestigious
Title upon completion	None	Dr.

Intersection of Master's & PhD Programs

Most common paths:



Intersection of Master's & PhD Programs

Others paths:

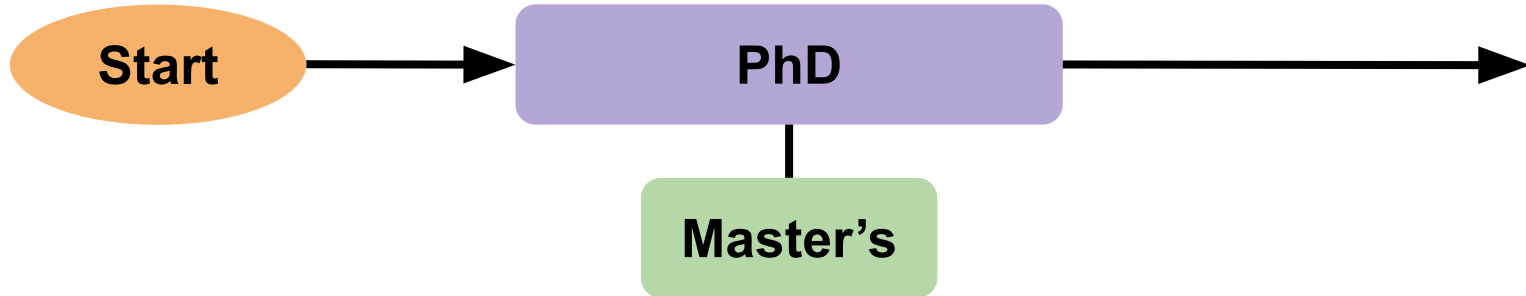
“Continuing on”



Intersection of Master's & PhD Programs

Others paths:

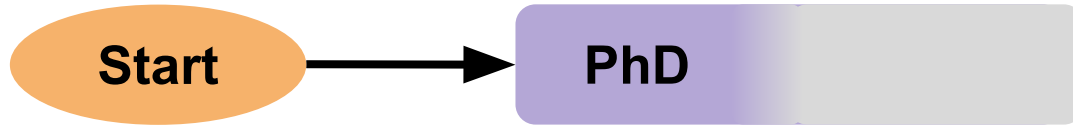
“Master’s *en passant*”



Intersection of Master's & PhD Programs

Others paths:

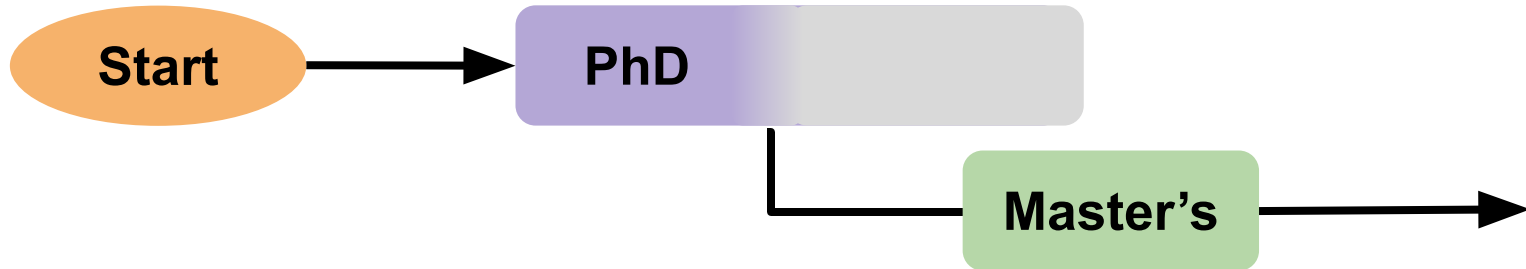
“Mastering out”



Intersection of Master's & PhD Programs

Others paths:

“Mastering out”



Other considerations

Other considerations

International

Often require master's first, generally shorter

Domestic

No master's required, generally longer

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Professional

Focus on classes and projects, shorter

Thesis-based

Focus on research and writing, longer

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Rotations

Try out labs before committing to advisor

No rotations

Commit to specific advisor before applying

Our Focus

International

Often require master's first, generally shorter

Domestic

No master's required, generally longer

Professional

Focus on classes and projects, shorter

Thesis-based

Focus on research and writing, longer

PhDs

Evolution & Ecology

Rotations

Try out labs before committing to advisor

No rotations

Commit to specific advisor before applying

Questions



Outline

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Research involves....



Surveying the
literature



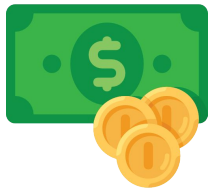
Collecting
data



Designing a project



Analyzing
data



Applying for
funding



Publishing
papers

Flavors of Research

Flavors of Research

Theoretical

Computer-based analytical studies, including constructing models and simulations

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Theoretical

Computer-based analytical studies, including constructing models and simulations

Lab-based

Indoor experiments using model or non-model organisms, including agricultural, behavioral, genetic, microbial, and physiological studies

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Theoretical

Computer-based analytical studies, including constructing models and simulations

Lab-based

Indoor experiments using model or non-model organisms, including agricultural, behavioral, genetic, microbial, and physiological studies

Field-based

Empirical or observational work examining nature in a natural field setting or mesocosms mimicking field settings (like greenhouses or aquariums)

Flavors of Research

I'm primarily interested in....

- A. Theoretical work
- B. Lab work
- C. Field work
- D. A blend of the above



Flavors of Research



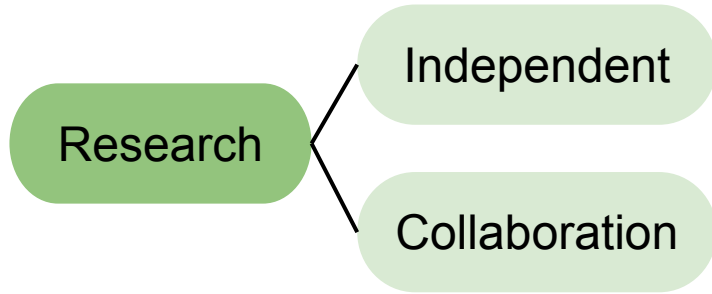
Many PhD students do a **blend** of two or three of these research flavors!

There are **different risks** and **rewards** (trade-offs) associated with each

Consider what types of activities you **want** to be doing **long-term** when choosing a project/program/advisor

A PhD is a full-time job!

A PhD is a full-time job!



A PhD is a full-time job!

Research

```
graph LR; Research --- Independent; Research --- Collaboration; Teaching; Mentoring;
```

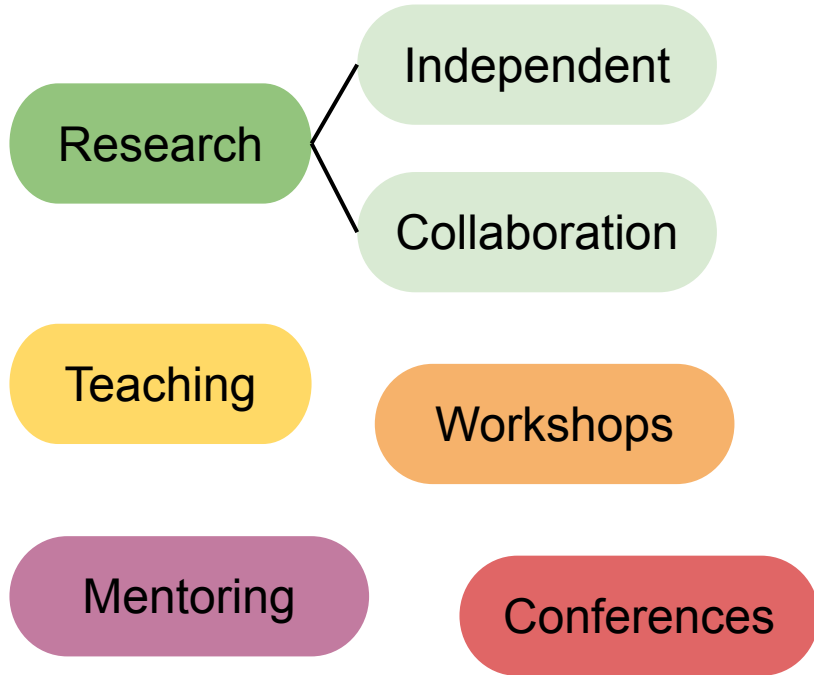
Independent

Collaboration

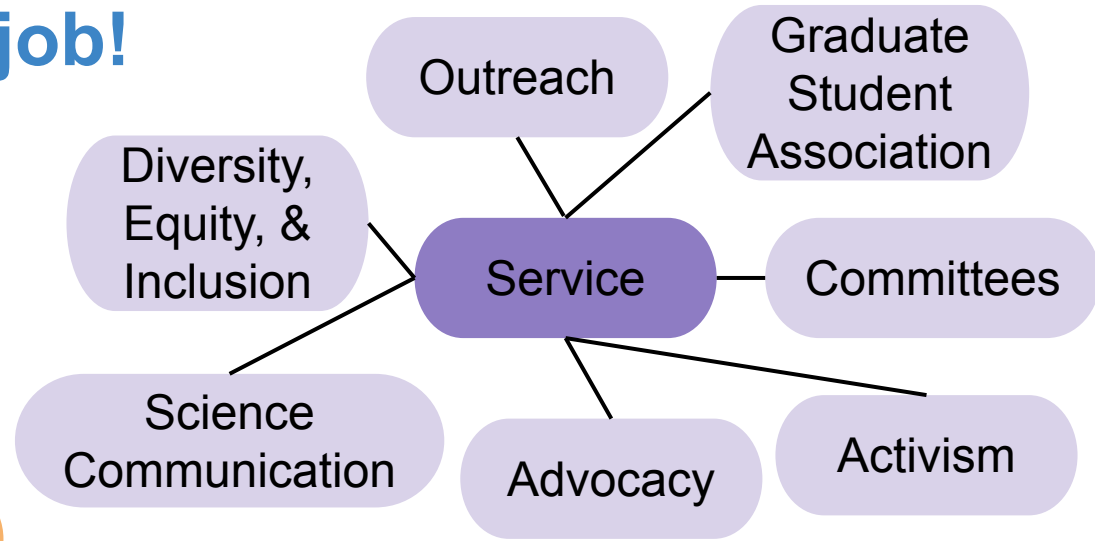
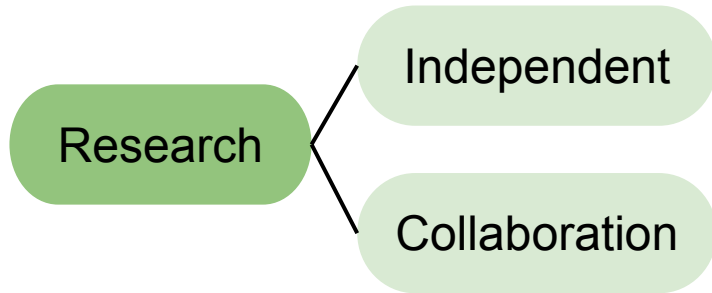
Teaching

Mentoring

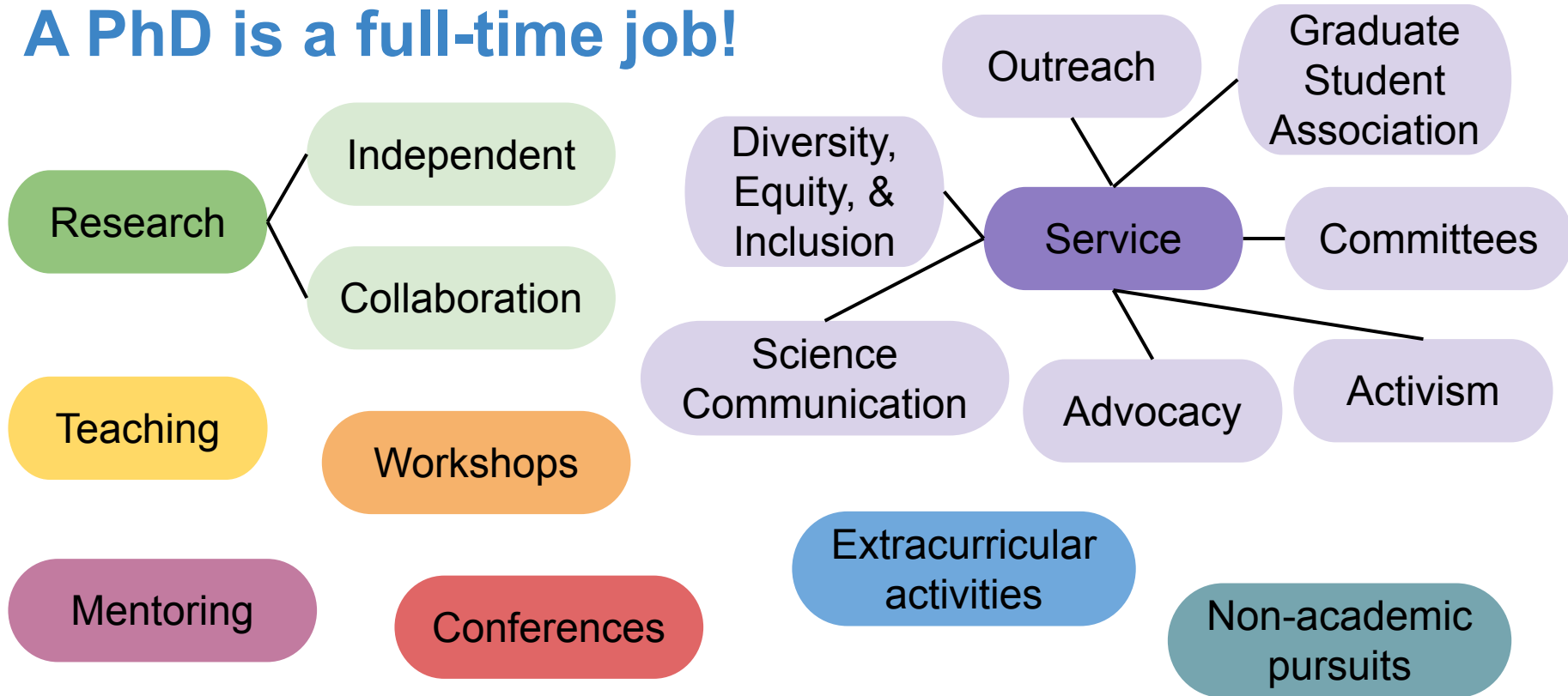
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A PhD is a full-time job!



A PhD is a full-time job!



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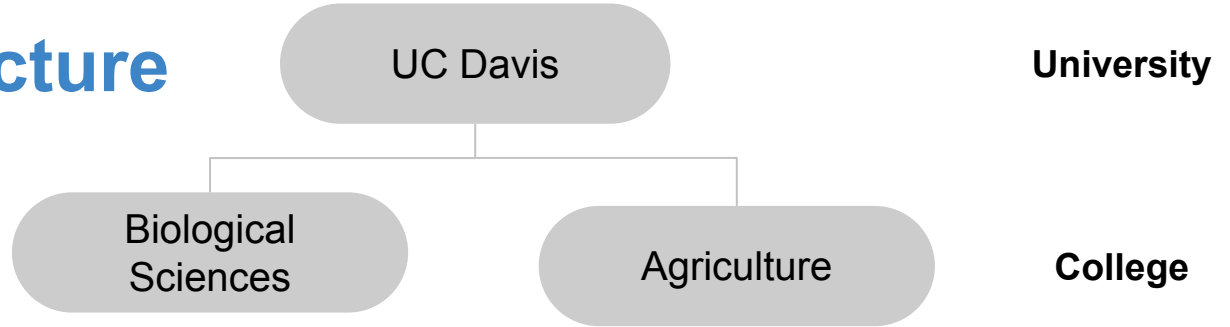
University Structure

University Structure

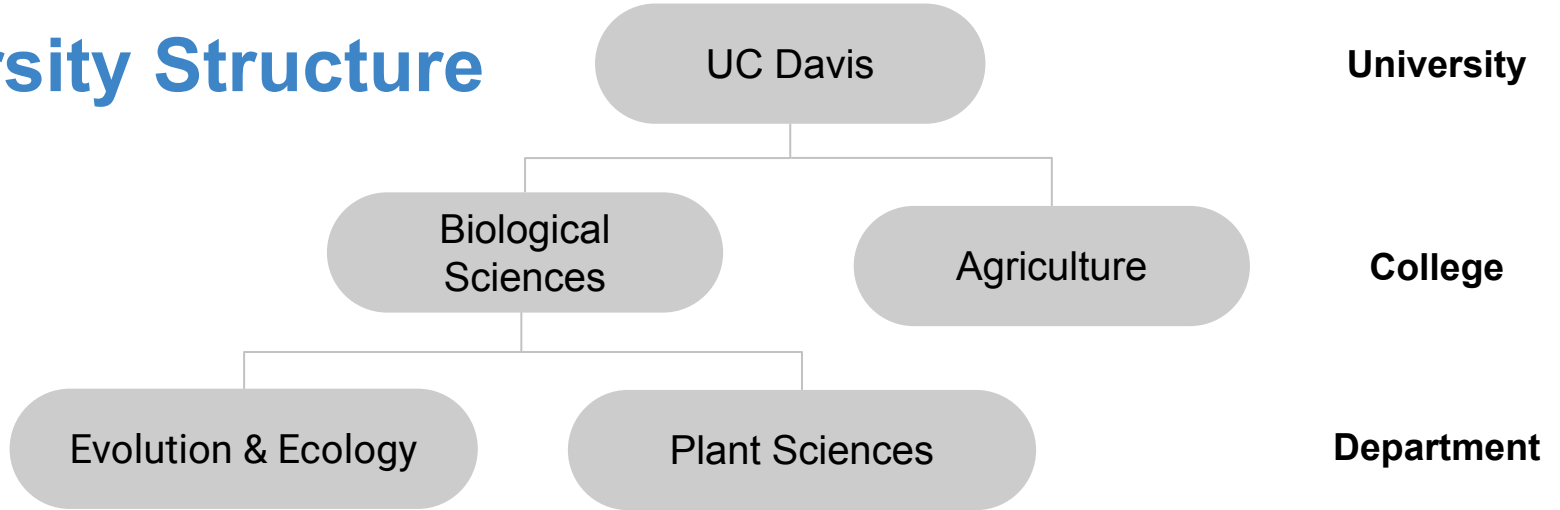
UC Davis

University

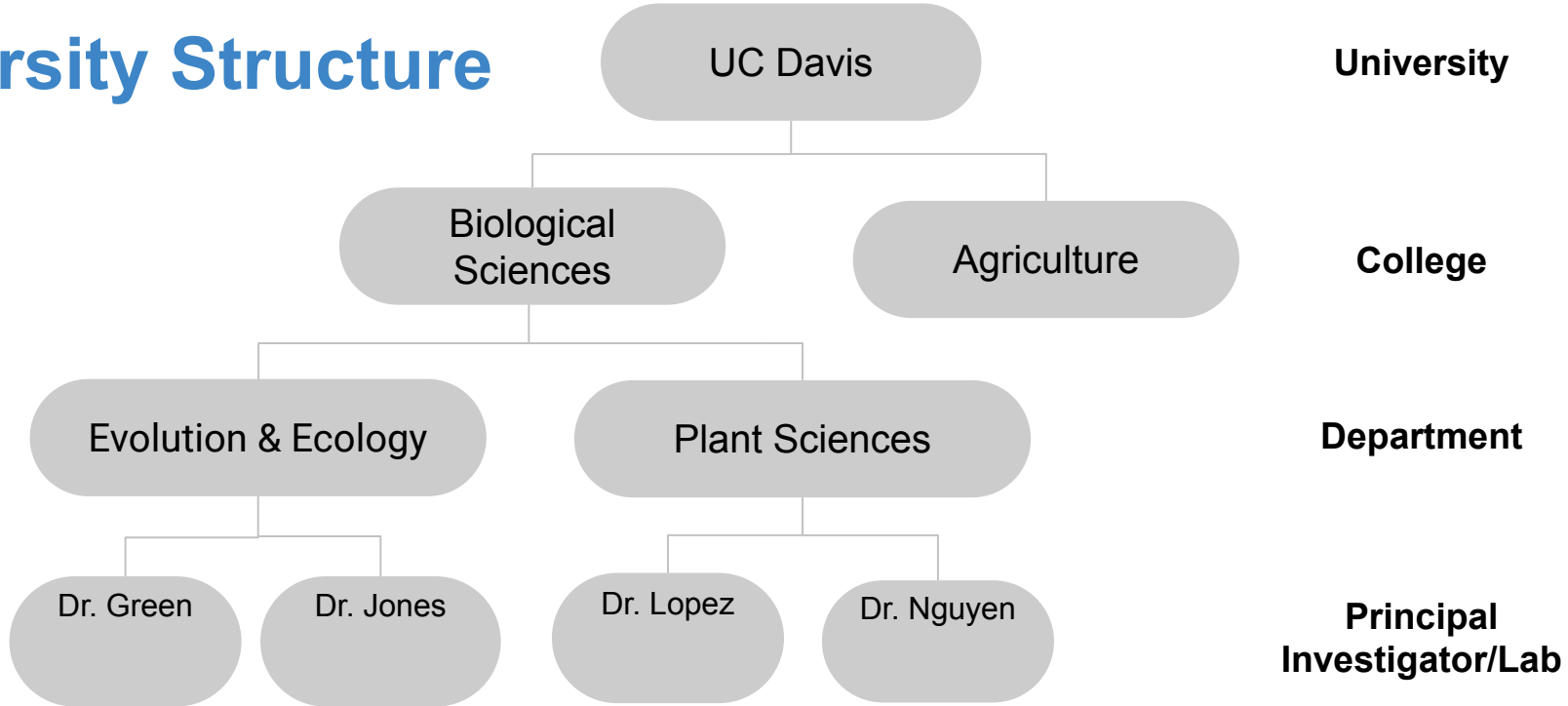
University Structure



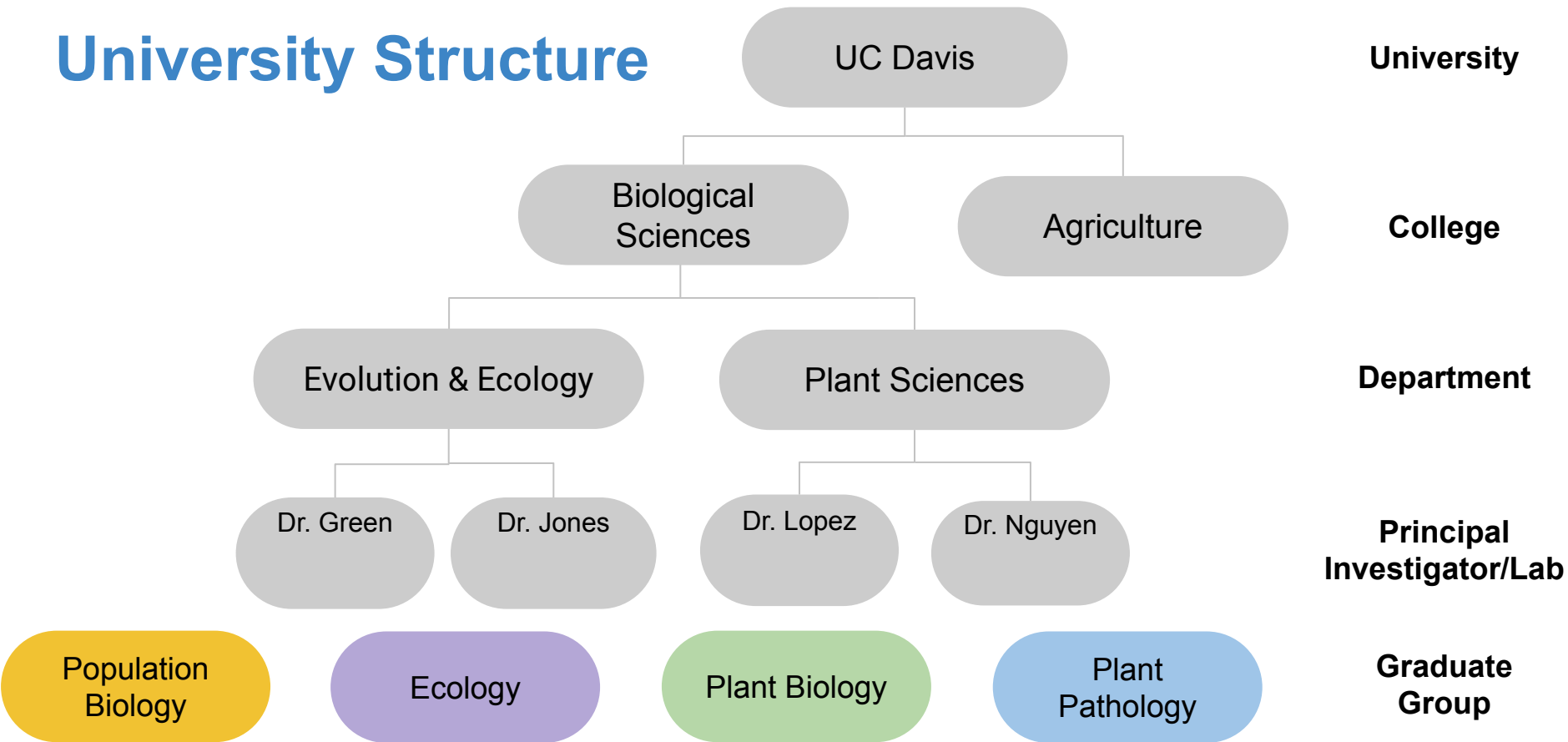
University Structure



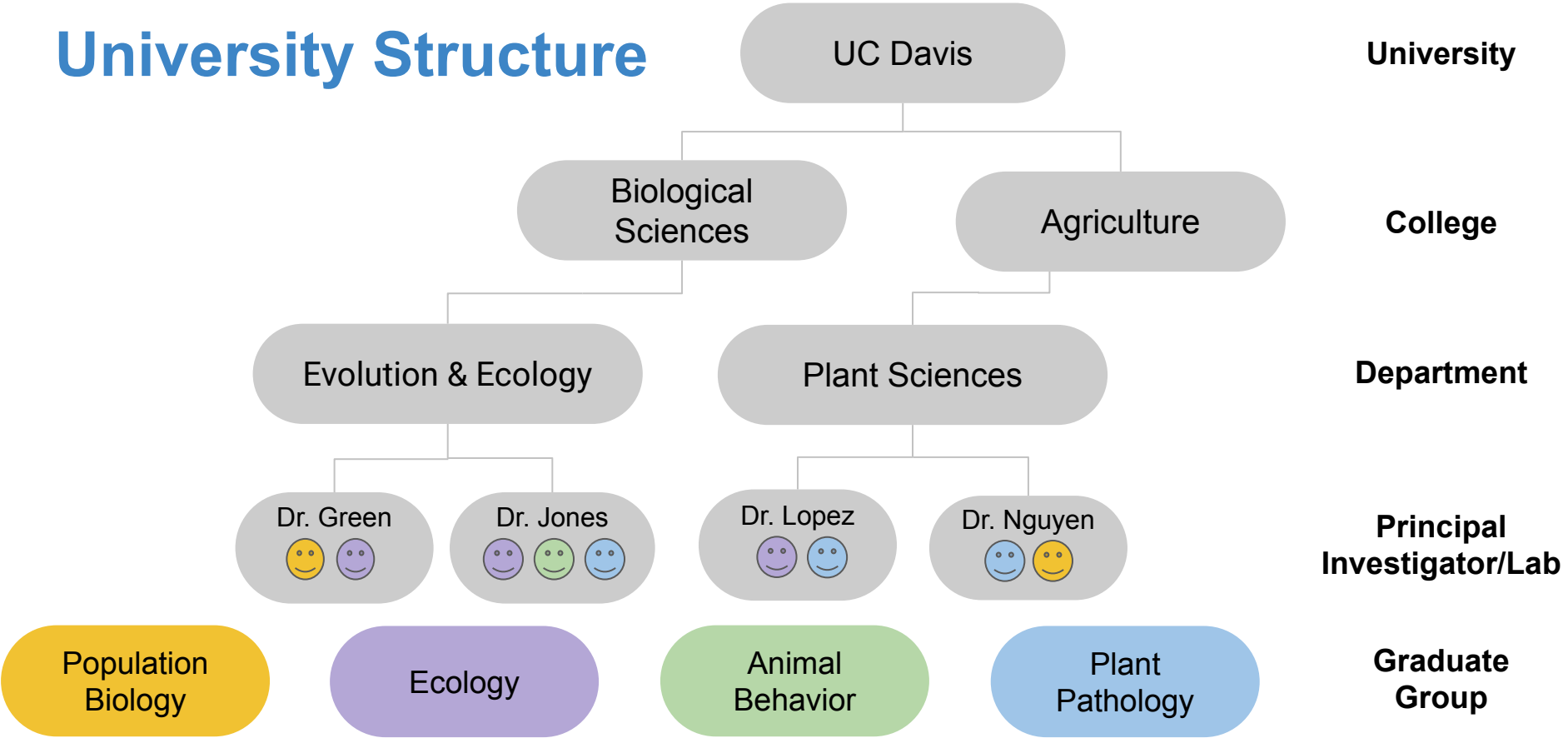
University Structure



University Structure



University Structure

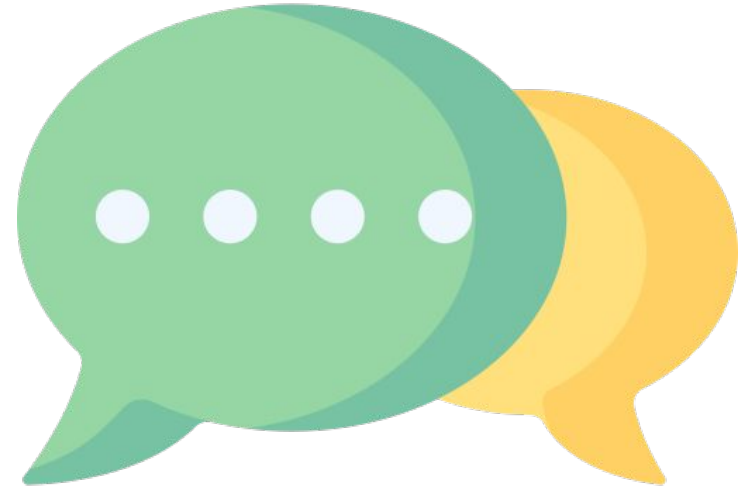


Questions



What are some ways graduate programs vary?

**Share your thoughts
in the chat!**



Graduate Program Structure

Different programs vary in:

Size

Career
emphasis

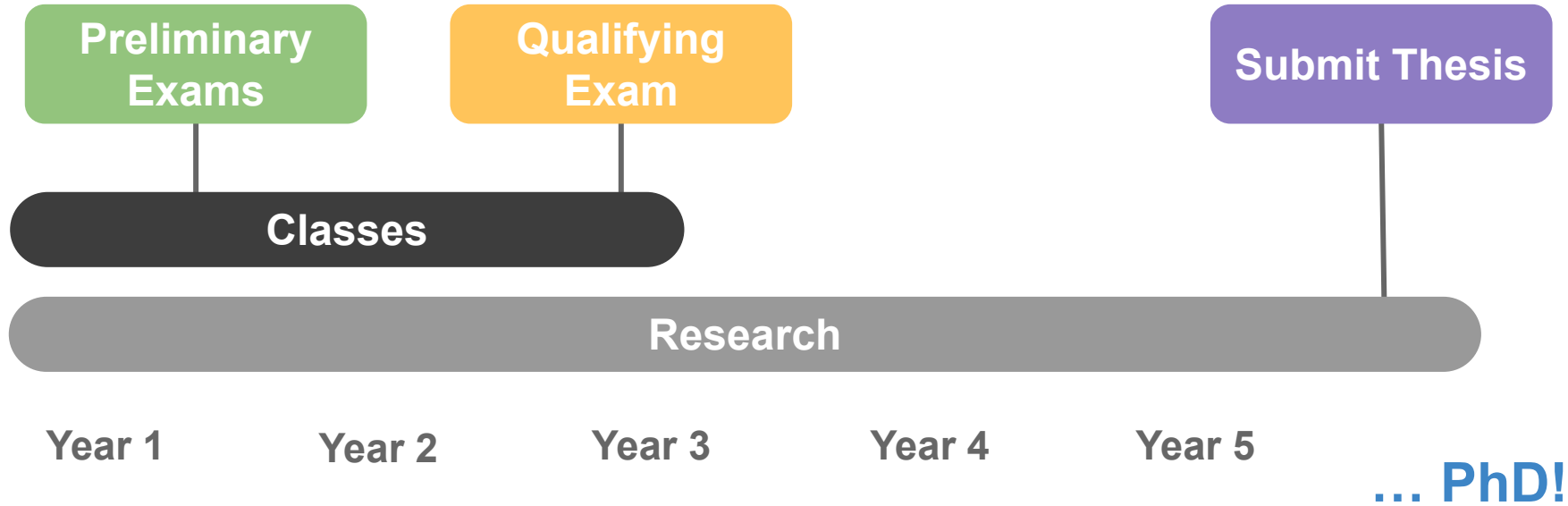
Length

Course
structure &
emphasis

Social
culture

Category	Ecology	Population Biology
Size	~150 master's & doctoral	30 - 40 doctoral
Career emphasis	More applied	More basic
Length	5-7 years	5-7 years
Course structure & emphasis	Quarterly exams, ecology focus	Core exam, genetics, more quantitative
Social culture	Large group dynamics	Small group dynamics

Major Milestones



Exams

Preliminary Exams

Exams on required classes testing the **breadth** component of your knowledge

Qualifying Exam

Defend an original research proposal consisting of three chapters of work you plan to publish (**depth** component)

Dissertation

- Conduct original research using your dissertation proposal as a guide
- Assess progress with dissertation committee at least a few times a year
- Compile into three chapters and submit
- Defend thesis and/or give exit seminar



Finishing your PhD

There are incentives to finish early...

- Funding
- Other jobs pay more

But plenty of circumstances may delay it

- Advisor's situation
- Illness, children, financial need, time off

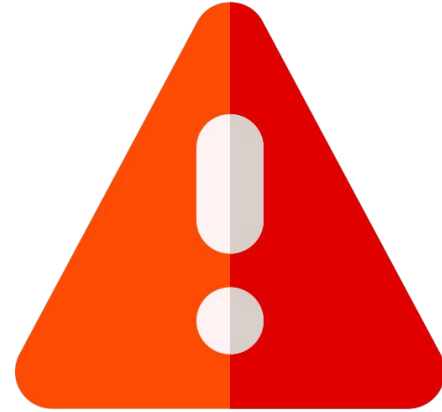
*A good advisor
and program
will support you
no matter what
until the end!*

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Graduate school is NOT...

- An extension of undergrad
- A fast-track lane to academia
- A 9-5 or gig job



PhD vs a 9-5 job

Category	PhD	9-5 job
Time schedule	High control and flexibility	Low control and flexibility
Structure	Low	High
Pay	Low	Often higher
Culture	Variable	Variable

Closing Activity

Write down a couple things that are still cloudy about the structure and function of grad school

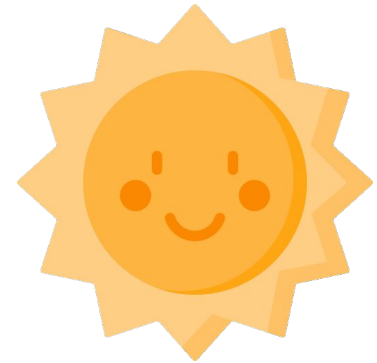


Closing Activity

Write down a couple things that are still cloudy about the structure and function of grad school



Share those cloudy points with your breakout room → a mentor will be present to help clear things up!













Workshop Feedback

Your feedback is important to us. Please take a few minutes to complete evaluations for this session.



Nuts & Bolts of Grad School

tinyurl.com/preview21feedback

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For the next session...

Please start thinking of 2-3 sentences describing yourself and your research interests

For example, “I’m Danielle, and I’m a Ph.D. student at UC Davis studying evolutionary plant defense and life history responses to different herbivore communities. I am interested in how herbivores select for different defensive strategies, and how plant populations may respond to herbivore community shifts due to climate change.”



Dig Deeper with Us



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