

MITOCW | mitres16-9960-phd_thesis_proposals_captions

[Morse code beeps] [Whoosh]

[Helicopter rotor]

Hello, everyone.

My name is Nick Rober.

I'm a fellow with the AeroAstro Comm Lab, and today we're going to be talking about PhD thesis proposals.

So, to get started, let's do an opening activity, which, is just checking your department's requirements.

This is important because each department is pretty different on what they might require for a PhD thesis proposal, and it's important to know what you might be having to do going into this lesson today.

[Alien spaceship beeps]

So the lesson goals for today are to first identify what is the purpose, the goal, and the audience of a PhD thesis proposal.

We'll learn how to plan and structure your thesis proposal to make it as strong as possible.

And then we'll also leave with a concrete roadmap, for your own proposal, that you can use to plan the rest of your your PhD thesis research.

So what is a PhD thesis proposal?

A PhD thesis proposal is just a checkpoint in the process towards your dissertation, that often consists of both a written and oral component, and is usually presented to your PhD thesis committee.

The purpose of the PhD thesis proposal is to propose a clear plan for your future and also demonstrate that you are ready for independent research.

Depending on your program, the thesis proposal may come at different points throughout your your grad school career.

Sometimes it's it's towards the beginning and sometimes it's towards the end.

Earlier proposals usually communicate a reasonable plan to graduate to your department/committee.

And then later proposals are effectively a check, to make sure that you're ready to defend.

We'll primarily focus on the earlier thesis proposals through this lesson because it includes more of a planning component.

So to go about actually making your thesis proposal, the first step is actually planning the thesis proposal.

So this has a lot of overlap with our other lesson on formulating a research topic, but we'll go through some, some elements of that that are specific to the thesis proposal itself.

So the thesis proposal, you should keep in mind, this is something that will actually be very helpful for you as you go through the PhD.

It's useful to organize your thoughts and what you first want to identify is what are the gaps in your field of interest that you need to address?

And then the answer to that is maybe a more difficult piece.

But what are you going to do to, actually address those gaps?

Both of these should be elements, in your thesis proposal.

You need to be very mindful of the scope.

So plans should be extensive enough for the PhD, but not so much that you can't accomplish them in around five years time.

So tips to kind of gauge the scope of this.

You can look at other PhD theses throughout your or from your department or your lab And you also you want to you want to be very specific, when kind of describing what the gap is and what your contributions will be.

You also want to be specific when you're discussing your contributions.

The more specific you are, the easier it will be to gauge kind of how long each of those things will take.

You should also discuss a lot with your advisor and your committee.

These are, you know, resources that can help you.

Your advisor is a good resource to help judge the merit of your proposal.

And if you have the opportunity to meet with your committee before your proposal, you can kind of do a mock proposal that tells them the ideas that you want to discuss, and then they can give you feedback.

Another part of building your proposal is designing a roadmap.

So a roadmap is simply a kind of timeline of your next contributions, where you'll submit those contributions.

And it helps convince your committee that you have a plan and a path towards graduating on time.

It can also be used as a guide to help keep you on pace.

So as you go through, you know, your future semesters, you can check and see like where are you with respect to your your original plan.

Things to include in the roadmap are when you will accomplish each of your milestones, as well as kind of where you plan to submit each of your milestones in terms of publications.

An example is shown here.

This is just something that you know, you can kind of based off of, but basically you have each of your contributions where you're submitting them and when you're going to be working on them.

So next we launch into an activity.

So go and find the "Build a Roadmap" file and work on that for the next five or so minutes and we'll jump back into the lesson.

[Alien spaceship beeps]

So once you've gone through and planned out most of your thesis proposal, it's time to actually start writing.

The written proposal is the actual document that you submit, typically to your committee, as well as maybe the department, that outlines the plan for your dissertation.

So the audience for this is usually fairly small.

Often it's just your committee.

Maybe there's a department rep that you're submitting this to as well, but, you're primarily writing this document just to be read by, you know, 3 or 4 people.

So you can really kind of tailor the writing specifically for their background and make sure that the motivation and everything is, is, scoped to what each of them are familiar with.

The purpose of the written proposal is actually just to propose a clear research problem.

So this is something you've already kind of thought about through the planning process.

You also want to demonstrate a strong understanding of your field.

So you show that you have knowledge of the literature and all the different components of the problem that you're trying to address.

You also want to define the scope of your research and support that scope with how feasible it will be based on the amount of work that you need to do.

And then finally, you need to set a plan, going forward, that gives you a timeline towards towards graduating on time.

Written proposal components.

So typically there's an introduction.

This is what will give you the motivation and identify the research gap that you're going to be addressing.

Related work and background show your committee that you have, knowledge of the field and have mastered the material and it also contextualizes your work.

The problem statement is where you actually identify specific problems for your research that you're going to be addressing.

You may have sub-problems as well.

So smaller bits that you need to solve to solve the bigger problem.

And then you'll talk about your proposed methods and approach.

And this can be tricky because, you know, you don't necessarily have these done, but they should give you they should give some sort of idea of what you plan to do and how you might approach the problems.

And then depending on where you are in your, your research, you may have some results already, which you can include.

Otherwise, you should give kind of the expected results.

What do you expect to see from your, from your contributions?

And how will those address the research gap?

And then finally, you can give, the timeline and the roadmap that we've just developed to give a plan towards your final defense.

So regarding tips for actually writing your proposal, the first thing to do is double check your department requirements, make sure that you know exactly what it is you need to have done and when.

This includes length expectations.

So what, how much material are you required to submit?

And then also what material specifically are you, required to submit?

And also, when writing, you want to be specific.

So specifically, what problem statements are you trying to solve?

The more specific the better.

And then specific proposed methods will help your audience so your committee evaluate the methods, and then also provide ideas that might kind of give you different directions to, to pursue.

Another thing to keep in mind is that some amount of uncertainty is expected.

These are hard problems to solve, which is why they're worth doing as a PhD.

So your committee will understand that and it's important to keep that in mind and not shy away from, you know, not knowing the answer to everything.

Ultimately, they'll be able to help you with finding some solutions and giving you ideas, so this is an opportunity to get their feedback.

So once you're done writing, it's time for the actual proposal defense.

And the proposal defense is just an extended meeting where you will present your thesis, and then your committee will typically ask you questions, and there may be some time for deliberation afterwards.

Again, in this case, the audience is, your committee members, but it may also include some department representatives and even an independent evaluator.

But again, you're you're kind of mainly presenting to your committee and trying to get their approval.

The purpose of the defense is to demonstrate that you're comfortable with the material and give you an opportunity for more interaction with your committee and kind of get ideas from them as well.

So the specific layout of your proposal defense is something that's very dependent on your department, so make sure you're you're familiar with your department's requirements before beginning.

But often there are a few different components.

So first obviously there's the presentation.

But before and after that there may be some sort of evaluation period where your committee will discuss in private, the merits of your written component.

There will also be a Q&A session, which is very important because your committee will have questions about your ideas.

But this is also, it's important to keep in mind that this is a good opportunity to get feedback from your committee and hear what their ideas might be, with respect to your specific research gap.

And then finally, there's typically some sort of private deliberation period after the entire defense is over where your committee will decide whether or not you pass your defense.

So with that, let's jump into the final activity, which is responding to committee's questions.

So go and find the "Committee Questions" file and work on that for the next five or so minutes.

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With that, you should now be able to identify the purpose, goals and audience of your PhD thesis proposal.

You should be able to plan and structure your proposal to make an effective argument for your readiness as a PhD student and you should be able to create a roadmap for your research leading up to your dissertation. Thank you.

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