



School of Mathematics and Statistics

Becoming a PhD student

Questions:

1. Do I want to do a PhD? (Why?)
2. Can I do a PhD? Should I?
3. Is mathematics the most suitable discipline?

Check out:

<https://amsi.org.au/publications/advancing-australias-knowledge-economy/>

What does the degree involve?

The handbook says:

The PhD program involves a minimum of three years full-time study. Students undertake supervised research leading to the production of the thesis.

The length of a doctoral thesis normally should not exceed 100,000 words of text and should be submitted for examination within 4 years of full-time study.

...but what do you actually do for 3(+) years?

What it really involves!

To learn how to be an independent mathematical researcher.

To do this you will need to

- Learn some more maths
- Learn how to find (and solve) problems
- Learn how to write mathematics for publication
- Learn how to present mathematics at seminars and conferences
- Learn how to collaborate with other researchers

Entry requirements

- Almost all universities have the same entry requirements: **at least a II-1 Honours degree.**

In reality, you should probably have a 1st class Honours degree (ie 85+ at UNSW)

.... with exceptions

+ Money!

First steps

. You need to decide where you want to study!

Important points to consider:

- **What area of maths are you interested in?**
- **Who are the main people in that area?**
- **What sort of postgrad environment does the university provide? What reputation does the university have? Number of PhD students?**
- **Are there special requirements? Courses? Languages? Opportunities to teach?**
- **What sort of funding is available? (Scholarships and research support)**

The Master's Apprentice (or mistress's)



You'll need to find your Yoda!

Do some research

First: ask your Honours supervisor for advice!

Check the research web pages of different maths departments.

**Look people up on MathSciNet? (Are they publishing?
Do they have good collaborators?)**

What are the application deadlines?

**Eg UNSW for 2020: Applications close 20 September
Offers: from 26 Nov. (Before end of T3!)**

Highly variable and not always obvious!

(deadlines mainly for scholarship purposes)

Making an application

Line up some referees. Prepare a CV.

Email some possible supervisors

- Most places require you to have done this before applying!
- Write them a **personal** email, not a generic one!
- Send them a transcript and a description of your Honours project.
- If they respond positively, you may need to prepare some sort of research proposal with them.
- Visit if you can – some places require an interview.

Make the formal application to the university.

Wait for the offers to roll in

Funding

Full Fees are expensive!

Almost all domestic research students have their tuition fees waived via the government's Research Training Program (RTP)

Living allowance scholarships: Most local PhD students receive an RTP scholarship worth roughly **\$27.5k pa**. You need a 'good' H1 degree to get one. Uni's often offer additional scholarships to try to fund all local H1 applicant, and/or offer 'top-ups' to some students.

Often some money from teaching/marking.

Funding

Some supervisors have funding specifically for their project.

Or Industry funding.

There are some 'high prestige' higher value scholarships, (eg UNSW Scientia Scholarships \$41k pa +)

Any Questions?