Becoming a PhD student at the Department of Mathematics

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Overview

As PGR director responsible for the PhD programmes in Statistics, Probability, Financial Mathematics, and Mathematics in Actuarial Science I get many requests by students who wish to apply to these four programmes about the best strategy to get accepted into the respective programmes. Please find below some information that you may find helpful.

How do I apply?

Please follow the University guidelines on the postgraduate research (PGR) application page. Application is via an online form, do not send the application directly to an academic or admin staff by email.

The Department of Mathematics offers some additional information to prepare your application for a PhD degree offered in a discipline related to Mathematics.

Specifically, your application must include

1. your motivation letter (why you would like to do a PhD),
2. a research proposal (i.a. a description of your research interests, not a fully worked out project),
3. two academic reference letters (not from your potential supervisor *),
4. your CV and
5. certificates and grades.

*The supervisor will write an additional third letter of recommendation to support you in getting funded once you have been accepted to the PhD programme.

How do I find a supervisor?

Here is a list of academics in the Department of Mathematics working in the fields of

- Statistics,
- Probability, and
- Financial and insurance mathematics.

Many supervisors also explicitly advertise research projects for PhD study and list their projects in the postgraduate project booklet. Send email to pgr-maths@manchester.ac.uk to get the most current version.

It is recommended to approach potential supervisors directly before submitting an application to introduce yourself and show your interest in a PhD with them and or to announce an application. If they have no capacity to supervise you they may still be able to recommend colleagues (including in other Departments). In informal discussions the potential supervisor may also be able to guide you when writing your research statement.

However, you do not need to apply with a specific supervisor in mind. In this case in your application it is very important to describe your research interests well so that your application can be sent to the most suitable academics for evaluation. However, do not submit a detailed project description without consultation with a potential supervisor.

What do supervisors look for in a PhD student?

Primarily, they look for evidence that you can do a PhD in a field related to their own research area. Very good grades (UK first class BSc degree, distinction in the MSc) are clearly important but there are other criteria as well. In particular, you must be able to demonstrate scientific writing skills (via BSc and/or MSc thesis) and ideally you do have some previous research experience (via student projects, research internships etc). Therefore, in the informal discussions with a potential supervisor it is always very helpful to provide them with all the evidence about your prior scientific experience that you may have, such as your BSc and/or MSc thesis. Finally, as PhD student you are expected to be highly self-driven, be able to work independently and have very good time management skills.

As part of your application you need to include a motivation letter as well as a description of your research interests. This will also help potential supervisors to learn more about you.

Why is it so difficult to get into the PhD programme?

The number of available PhD positions is strongly limited by the number of available academic supervisors. First, most academics who supervise PhD students typically only have capacity to accept one (!) new PhD student each academic year (so at any time they will supervise around 3-4 PhD students). Therefore, when you apply you will compete with many other students for the same supervisor. Second, not all academics are research active so some do not take on PhD students, reducing capacity further.

Accepting a PhD student is a long-term commitment that in fact extends beyond the duration of the PhD. It is therefore critical to convince academics about your potential and that you are the right candidate, as academics are very selective when accepting PhD students. In addition it is also critically important to apply in time (early!).

When is the best time to apply?

Technically, you can apply anytime. However, given that access and allocation to supervisors is the limiting factor the best time to apply is just before decisions about accepting PhD students are taken. This normally happens early in the year (January-March) for a start in September the same year. The best time to apply is therefore November, December and January. Any later application means that you most likely will not be able to find a supervisor who still has capacity to accept you as PhD student.

Sometimes supervisors advertise specific PhD projects with certain fixed application deadlines. In this case you will need to submit your application in time before the given deadline.

Also if a supervisor approaches you to invite you to apply for PhD study then this often means they have capacity for supervision and are looking for PhD students.

What happens to my application after submission?

Once you have submitted your application the PhD application procedure proceeds as follows:

1. Depending on your research interests your application is sent to all relevant academics for review. If you have specified a specific supervisor it will be sent to that particular academic first.
2. After an evaluation period (which may include informal discussions with potential supervisors) your application is either rejected or you are invited to a formal interview.
3. The main reason for rejections are (lack of) capacity, academic performance and fit to project.
4. The PhD application interview will be conducted by two academics (including the supervisor) and typically you will be quizzed about your prior research experience and your BSc and MSc theses. Note that supervisors often interview several applicants for the same project.
5. If you pass the interview then you will be offered a place in the PhD programme and you will receive a corresponding academic offer letter.

Note that funding is considered in a separate step. For acceptance to the PhD programme it is completely irrelevant whether you are self-funded or require funding.

How do I get funding?

With the academic offer in hand you can accept the place in the PhD programme (and the corresponding fees). If you require funding you can apply for University funding to cover all or part of the fees, as well as living expenses.

Your supervisor who accepted you as PhD student will propose you for University funding and support your case with a recommendation letter (complementing the two other reference letters). There is a Departmental PGR funding panel meeting regularly to rank all current PhD applicants with offers and to allocate Departmental PhD studentships competitively. There are also a number of PhD studentships allocated on Faculty or on University level. Applications for these studentships is also organised via the Department.

In case you have been offered funding by the University you will need to accept the funding offer as well the academic offer within short time.

Often, there are other potential sources of external funding, such as studentships sponsored by a government, by a company or by philantrophic institution. Your supervisor will support you appropriately to apply for these studentships, e.g. by writing a letter of recommendation.

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