UNIVERSITY OF CAMBRIDGE

Faculty of Mathematics

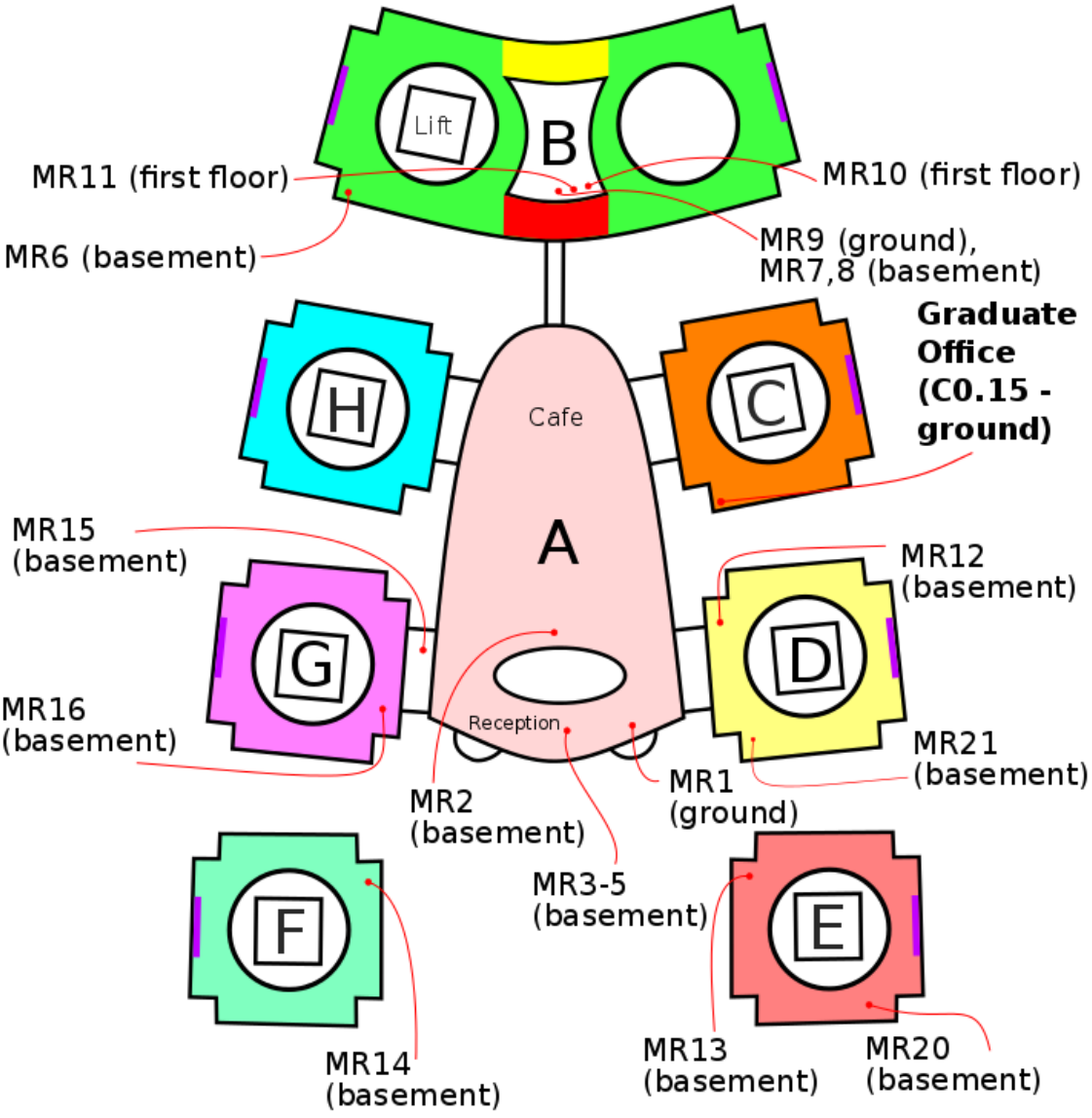
Department of Applied Mathematics and Theoretical Physics

Department of Pure Mathematics and Mathematical Statistics

Research Student Handbook

October 2019

Centre for Mathematical Sciences
Wilberforce Road, Cambridge



Access to MR1-5, MR13-16 is via reception in Pavilion A; disabled access is via lift in Pavilion D.

All pavilions except A have one lift each, marked above with squares.

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WELCOME!

You have become a part of one of the broadest, largest and most successful Mathematical Sciences Faculties in Europe. The opportunity to learn daily about the breadth of new research from the people who are doing it is a truly stimulating experience.

Beginning research can seem daunting and we are keen to provide encouragement and support from the start. This booklet explains the details – both what we expect from you and what you can expect from us. Read it, and keep it on a shelf for future reference.

The Faculty works best if the academic staff, postdocs and graduate students appreciate that they are part of one integrated research community and so naturally look out for each other. If at any point you have worries – whether mathematical or procedural – please do not hesitate to ask. There will always be someone happy to help.

I hope that you have a rewarding and enjoyable time in Cambridge.

With best wishes,

Nigel Peake and James Norris
DAMTP and DPMMS Heads of Department October 2019

SECTION 1 – INTRODUCTION

As a research student, the department should be the focal point of your working life. This handbook explains how a PhD in the Faculty of Mathematics is structured, including key procedures for assessing your progress. It describes what is expected of you, and of your supervisor, and explains the roles of other members of the department who may also prove instrumental in helping you to succeed in your research. It contains advice on how to make the best of your time here, highlighting opportunities that will be available to you, but also giving guidance on how to deal with problems that may arise. Information for current graduate students can be found at http://www.maths.cam.ac.uk/postgrad/current/information-current-phd-students.

DAMTP and DPMMS do not exist in isolation: they belong to the Faculty of Mathematics, and so do you, as one of its students. You are also a member of the University and of a College. Here are a few additional words of explanation:

The Faculty and CMS

The Faculty of Mathematics https://www.maths.cam.ac.uk/ comprises both DAMTP and DPMMS. Both departments are housed under the same roof, at the Centre for Mathematical Sciences, or CMS http://www.cms.cam.ac.uk/. The CMS also hosts the Cambridge Centre for Analysis and Cambridge Mathematics of Information, both of which are postgraduate training centres covering work in DAMTP and DPMMS.

The **Faculty Degree Committee** https://www.maths.cam.ac.uk/degreecommittee has key statutory duties and responsibilities in relation to all research students in Mathematics, from appointing a supervisor to recommending the award of a PhD.

The **Faculty Graduate Office** handles the administration of graduate affairs in the Faculty. It is located in Pavilion C room C0.15 and staff will be happy to give advice and answer questions in person, by email or phone. Key contact details are given in Section 6. A full list is available on the website http://www.maths.cam.ac.uk/internal/admin/graduate-office.

There are many joint ventures within the Faculty. In particular, the Faculty Researcher Development programme (see Section 3) has workshops that are led by one or other of the departments. Graduate Students from both departments are welcome and encouraged to participate in all the activities on offer.

The University

The University has an over-arching role in administration and regulation, with rules that apply to research students in all subjects. The central University bodies for administrative matters relating to research students are the Student Registry and the Board of Graduate Studies: http://www.admin.cam.ac.uk/students/studentregistry/

The University issues a Code of Practice for graduate students which you should consult:
http://www.admin.cam.ac.uk/students/studentregistry/current/graduate/policy/quality/cop/
The Code of Practice sets out the formalities of life as a research student in terms which are broad enough to apply to all PhD students in the University, whereas this handbook explains how the principles in the Code of Practice are implemented, in detail, within the department. You will be asked to sign a copy of the Code of Practice to confirm that you have read and discussed it with your supervisor and adviser.

The University requires all registered students to behave in accordance with University regulations and rules. Where it appears that a student may not have behaved as required this will be investigated and where a breach of the rules has occurred penalties or sanctions may be imposed. Rules of Behaviour can be found here: https://www.studentcomplaints.admin.cam.ac.uk/student-discipline.

You should also consult and familiarise yourself with the University web pages on research integrity http://www.research-integrity.admin.cam.ac.uk/ and consider participating in the training provided https://www.research-integrity.admin.cam.ac.uk/training.

Your College

Your College is yet another institution that will be a key part of your life in Cambridge. Each college is an academic community, governed by its own rules and regulations. It will give you the opportunity to meet students and academics outside Mathematics, through a range of intellectual, social and recreational activities. Very importantly, your College can also provide support and advice if you encounter difficulties, whether these are academic-related or personal in nature. A primary point of contact is your College Graduate Tutor, whom you should arrange to meet at the first opportunity.

Equality, Diversity & Inclusion

The Faculty, like the wider University, is committed to a pro-active and inclusive approach to equality, which supports and encourages all under-represented groups, promotes an inclusive culture, and values diversity.

Our aim is that staff and students from all backgrounds feel confident in their ability, feel empowered to be themselves and can achieve their best here in the CMS. We recognise that diversity promotes innovation and creativity, and provides exposure to a wider range of ideas, skills and experiences which we can all benefit from, as well as helping us to attract and retain the best talent from around the world.

Together we can create an inclusive environment of tolerance and mutual respect where everyone feels valued, listened to and protected from discrimination. We want the Faculty to be a safe and supportive learning environment and we are striving to ensure our commitment to inclusion is put into practice.

We expect all staff and students to be equally valued and treated with respect, courtesy and consideration. As a member of our community you have a personal responsibility to behave professionally and you have the right to expect professional behaviour from others.

The Equality and Diversity Committee is responsible for both staff and students and oversees a programme of initiatives aimed at enhancing the inclusivity of the environment in which we work and study covering all the protected characteristics including sexual orientation, gender, race, disability or faith. The Faculty strongly adheres to a zero tolerance approach to harassment and bullying and supports the University's Breaking the Silence campaign which provides support and guidance to members of the University affected by sexual misconduct https://www.breakingthesilence.cam.ac.uk/.

If you have concerns, you are encouraged to approach, in confidence, either one of the Faculty Equality and Diversity contacts: Rajen Shah (rds37@cam.ac.uk, D1.15), Orsola Rath Spivack (or100@damtp.cam.ac.uk, G0.09), or your College Tutor.

The Faculty has a Bronze Athena SWAN Award and also supports the principles of the London Mathematical Society Good Practice Scheme (see the Faculty's Women in Maths pages at www.maths.cam.ac.uk/women-mathematics. The Emmy Noether Society aims to promote women studying mathematical sciences and host talks from female mathematicians and informal events between students and academics, from both Cambridge and other universities http://emmynoethersoc.tumblr.com/. The Faculty has also developed an LGBT+ Action Plan (2019-2022) and you can join the Maths LGBT+ mailing list for information and news about regular social events (lists.cam.ac.uk/mailman/listinfo/soc-maths-lgbt). The majority of toilets on site are gender neutral with one set of gendered toilets on the ground floor of every Pavilion and at the bottom of the stairs in the core. The Faculty has a quiet room available for reflection or prayer in Pavilion F (contact damtpsec@maths.cam.ac.uk).

We encourage you to share your experiences (both good and bad) and ideas for improvements via our suggestion box (bottom of the main stairs from the core) or by emailing inclusivity@maths.cam.ac.uk. More information on equality, diversity and inclusion can be found at can be found at www.maths.cam.ac.uk/equality-diversity-inclusion.

SECTION 2 - GUIDELINES FOR STUDENTS AND SUPERVISORS

Research Groups

Mathematics is a very large Faculty! There are about 210 research students in DPMMS and DAMTP combined, together with a comparable number of postdoctoral research staff, who carry out research in a wide variety of fields. Academic staff, research staff and research students are organised into a number of groups of different sizes, and as a new student you will join the group of your supervisor (see below). Groups hold specialist seminars and informal discussion sessions, and act as a social focus too. You can turn for informal advice to a second or third year student in your group, or to a postdoc.

Your Supervisor

All research students carry out their work under the direction of a supervisor, who is normally a member of your Department's academic staff, but may occasionally be a member of the research staff. Most students arrive knowing the identity of their supervisor. If you do not yet have a supervisor, one will be assigned after discussions within your research group. In any absence of the supervisor, another senior member of the group will be asked to deputise.

The duty of your supervisor is to guide your research and to monitor progress towards successful completion of your dissertation. To achieve this, he or she will be available to meet you on a regular basis (see below).

Your supervisor will suggest preliminary reading and possible research projects, help you to get started, and be on hand to provide assistance and advice. Some students may work collaboratively with their supervisors on certain projects, while others may work more independently, though still relying on their supervisor for overall guidance. When the time comes to prepare results for publication, or to draft sections of your thesis, you should expect your supervisor to read and comment on what you produce. They will guide you on matters of good conduct and integrity in research and on the academic conventions for acknowledging the work of others. Over the course of your PhD, your supervisor will also advise you about attendance at courses and conferences. They can also give valuable advice on the next stage of your career, after your PhD.

Supervision: Meetings and Reports

Good communication is essential for a fruitful working relationship with your supervisor and it is most important that you keep in close contact. Supervisors are often very busy, so you must be proactive in your approach, especially if you are stuck or need help with a problem. Don't hesitate to send an e-mail to request a meeting if you find it difficult to track down your supervisor in person!

Individual supervisors will vary considerably in the detailed arrangements they make for seeing their students, but there are some general guidelines. In your first year you should expect to meet your supervisor at least once a week, on average, to review and discuss your progress at regular intervals. As time passes, your supervisor will still be available for weekly meetings if needed, but it may not always be necessary to meet so frequently, depending on your progress (if you need time to make headway with a complicated calculation, for example). At some

stages you may also find it beneficial to have regular informal conversations (over coffee or after seminars, for instance) rather than a more formal meeting. Nevertheless, you should normally meet your supervisor for a detailed discussion at least every two to three weeks during the course of your second year and into your third year. In the final stages of your PhD, as you are writing up, it may be best to arrange meetings simply as needed.

Your supervisor may keep records of meetings and progress throughout your PhD and they will write regular reports on the Postgraduate Feedback & Reporting System (PFRS). You will be able to read these reports on CamSIS http://www.camsis.cam.ac.uk/cam-only/index.shtml and you should comment on them or discuss further with your supervisor as necessary. Reports are disclosed to the Department, Degree Committee, Student Registry and your College. If you have difficulty finding your reports you should contact the Faculty Graduate Office. The PFRS system allows for ad hoc reports to be submitted by the student, supervisor, department, Degree Committee, or college at any point during the year.
Please note that the reports are not meant to be the primary means of communication between supervisor and student.

You will also receive an email invitation from the University to complete a self-evaluation report each year in Michaelmas term. Submission of this report is voluntary, but it provides a good opportunity for you to take stock of your own progress and to highlight any concerns that you have. The report you submit will be sent to your supervisor for comment, and you may wish to arrange to discuss it with them. If you do choose to submit a self-evaluation, your supervisor will write a response which will become your supervision report.

Your Adviser

Besides your supervisor, you will also be assigned an adviser, who will usually be another senior member of your research group or a group in a related area. This is someone you can contact for additional help and support. This person will also normally be one of your assessors for PhD registration. It is expected that you will see your adviser on a regular basis. Provided their engagement with your research has not become so involved as to cause a potential conflict of interest they may, with the Degree Committee's agreement, act as the internal examiner for your PhD. If you are unsure who your adviser is, ask your supervisor in the first instance, or the Graduate Office.

DAMTP Graduate Education Committee

The DAMTP Graduate Education Committee (GEC) oversees all aspects of postgraduate (PhD) education in DAMTP, including admissions, research and other training, monitoring progress, and completion. The GEC is chaired by the Director of Graduate Education (Professor Natalia Berloff, graddirector@damtp.cam.ac.uk). The Research Student Adviser (Professor Nick Dorey, N.Dorey@damtp.cam.ac.uk) deputises for the Director of Graduate Education and is responsible for Researcher Development. Other members of the Committee have specific responsibilities for graduate admissions and for coordinating the assessment processes for PhD registration (see below). The Committee has a graduate student representative, who can be contacted on: gradcom-rep@damtp.cam.ac.uk.

There is currently no DPMMS GEC.

Attendance in the Department

Experience has shown that coming to the Department on a regular basis is extremely beneficial for the progress of a student's research. Accordingly, you are expected to keep regular hours, and to be present in the Department for a substantial part of each weekday, for example 0900 to 1730 or 1000 to 1830. Attendance is not expected at weekends or in the evenings (though you may, of course, come in if you wish). You are entitled to holidays (normally 6-8 weeks per year in total) and you are urged to take some holiday every few months to provide a proper break from study.

Please keep your supervisor informed if you are going to be away for an extended period, for whatever reason. Any planned absence of more than two weeks must be discussed with your supervisor in advance, and also with your College Tutor if you are an international (non-EU) student, since the immigration regulations require the University to keep track of students' movements more closely. Most absences of more than two weeks require formal permission from the University https://www.cambridgestudents.cam.ac.uk/your-course/graduate-study/your-student-status/work-away-cambridge.

Seminars and Courses

As Mathematics is a large Faculty, during term time there are many seminars every week. Each group has a weekly seminar, and there are other seminar series of more general interest. In addition, there are talks at the Isaac Newton Institute, in particular the general lectures that are held on Monday afternoons. You will be expected to attend the specialist seminar related to your research area, and other more general seminars on offer (as displayed on the CMS screens and website). Your supervisor can advise you on which seminars to attend. You may also be asked to attend one or more MMath/MASt or graduate courses, especially in your first year, as part of your training http://www.maths.cam.ac.uk/lecturelists.

Conferences

Going to scientific conferences is regarded as an important part of the training of research students. Your first conference visit will usually be as an observer, but later you will be expected to present a poster or paper as appropriate.

The Faculty will normally provide support towards your attendance at three meetings (national or international) during your three years, although students whose funding awards include an allowance for conference travel will be expected to claim from those sources in the first instance. All students should also seek funding from alternative sources, e.g. conference organisers, wherever possible. If the total cost of your trip will exceed £200, then you should also apply for additional support, amounting to 50% of the total, from your College.

Details of the process are available at http://www.maths.cam.ac.uk/postgrad/phd-degree/time-away-department. Forms are available from the website or hard copies can be picked up from outside your Department's Finance Office.

A summary of the process is as follows:

BEFORE making any arrangements or committing to any expenditure you must:

i. Discuss the matter with your supervisor and obtain their approval.

ii. Contact your College (via your Graduate Tutor, if necessary) and any other possible sources to enquire about funding.

iii. Complete a pre-travel application form, to include a risk assessment, and obtain permission from the Department for your trip and, if appropriate, for funding support.

Once your application is agreed, for overseas trips it is ESSENTIAL that you take out University travel insurance. This is free of charge and can be arranged by visiting the page https://www.admin.cam.ac.uk/offices/insurance/travel/students/bgs/index.html

When you return from your trip, you will need to complete a reimbursement form and submit it to the relevant office. You must submit this with details of your actual expenditure supported by receipts in order to receive support from the department.

Some financial support may also be obtained from the Cambridge Philosophical Society http://www.cambridgephilosophicalsociety.org, which all research students are urged to join. Application forms and information about the Cambridge Philosophical Society are also available from the Graduate Office.

Teaching and Related Opportunities

Research students are strongly encouraged to participate in the small-group teaching that complements lectures and which is such a distinctive and important feature of the Cambridge Maths course, or Mathematical Tripos. This is rewarding (both intellectually and financially) and enriching in the varied opportunities that it provides for contact with bright, enthusiastic students, as well as with lecturers.

For Parts IA, IB and II of the Tripos (referred to as the undergraduate course) the small-group teaching sessions are called supervisions, and are usually two-to-one https://www.maths.cam.ac.uk/internal/teaching/supervising. All new PhD students are expected to attend a supervisor training course, whether or not they have immediate plans to supervise https://www.maths.cam.ac.uk/postgrad/phd-degree/researcher-development/faculty-researcher-development-programme/supervision-and.

For Part III of the Tripos (a taught, masters-level course) the small-group teaching mostly takes the form of examples classes. These provide a valuable opportunity to share expertise in an area that is much more closely related to your own research (as compared to an undergraduate-level course). In the area of Theoretical Physics within DAMTP, in particular, there are numerous openings to teach examples classes every year.

There are various other opportunities to support Part III students and at the same time build your teaching and transferable skills. Both departments regularly recruit graduate students to lead drop-in sessions (informal sessions during which Part III students can come and ask questions about a particular lecture course, similar to office hours) and to teach preparatory workshops in each subject area at the start of the academic year. Research students also regularly act as directors of the Part III seminar series, and organise a variety of other Part III events throughout the year, including the Wednesday afternoon cafe and the Research in the

UK event. Please contact Dr Julia Wolf, the Faculty's Director of Taught Postgraduate Education, at director-tpe@maths.cam.ac.uk if you would like to get involved.

Your PhD in outline: progress and funding

Most students' maintenance funding lasts for three years or three and a half years (e.g. for some students funded by UK Research Councils), and you are expected to complete your research and submit your dissertation no later than the end of your tenth term or very soon thereafter. A typical outline of progress for a student in DAMTP could be as follows: the first year spent mostly reading the literature and attending courses while working on an initial 'starter problem'; the next 18 months spent carrying out the main calculations that will form the basis for your thesis; and the final 6-9 months spent writing up. The typical progression of a PhD in DPMMS will depend on research area and the nature of the student's thesis topic.

No PhD student on a standard 3-year course is liable for University fees once these have been paid for 9 terms of study, but additional help with maintenance may be needed if writing up requires a tenth term. You may need to seek such help from a number of sources: from your funding body; from your College; and for instance from the Cambridge Philosophical Society http://www.cambridgephilosophicalsociety.org.

It is essential that you submit your thesis before the end of your fourth year (at which point you will automatically be removed from the Register of Graduate Students). If you think that you may have difficulties in meeting this deadline, you must discuss this with your supervisor at the earliest possible opportunity.

While your supervisor is available for advice and direction, you have the final responsibility for writing and submitting the dissertation, and for checking that the work in it is free from error. The work presented must be your own; if some of the material has been produced in collaboration, this must be declared. Your supervisor can advise you in doubtful cases.

SECTION 3 - RESEARCHER DEVELOPMENT (RD)

The purpose of graduate study is not just to develop into a skilled mathematician who produces a PhD thesis, but also to learn the skills which will help you to have a successful career, whether in research and teaching, or beyond academia, for example in industry. Researcher Development (RD) is therefore an essential part of any research degree.

Your effectiveness as a mathematician or physicist will depend on many skills: these include the ability to give good talks, write clear papers, negotiate with other department members, teach, run a research project, interact with and encourage others. We have a responsibility to provide opportunities for you to develop these skills. The policy within the Faculty is to give students the opportunity to develop their skills through taking on real responsibilities within their research groups and the Department, supported appropriately by more formal training.

Expectations

You are expected to spend approximately 10 days each year in acquiring and developing your skills.

All first year students are expected to:

- undertake the SPS Core Skills Training Programme http://www.maths.cam.ac.uk/postgrad/phd-degree/researcher-development/faculty-researcher-development-programme/sps-core-skills;
- attend the University Graduate Safety Course https://www.safety.admin.cam.ac.uk/training/graduate-safety-course/students; and
- attend a Faculty supervision training session http://www.maths.cam.ac.uk/postgrad/phd-degree/researcher-development/faculty-researcher-development-programme/supervision-and.

Each graduate student is expected to:

1. Undertake activities that help you to develop your core research skills, such as:

   Presentation skills: Your work must be communicated to be effective. You learn communication skills primarily by giving talks and using feedback to make improvements. Giving talks and presenting posters at conferences, or participating in seminars and in reading groups are all good experience. In addition, you should consider attending presentation skills training.

   Writing Skills: It is important to learn how to present your work clearly and you will need to acquire writing skills, in particular for scientific writing. In addition, you might wish to write more general articles. Throughout the course of your graduate work, you will be expected to write or contribute towards research papers for publication in scientific journals, and to submit written work as part of formal progress assessments. In your third year, you will have the biggest challenge of all - writing your dissertation. Various workshops are available to give you advice and practice. If your first language is not English, the Language Centre and Graduate Union can advise you on additional help.

   Good Academic Practice: Your supervisor, as well as helping you on the academic side, will be responsible for much of your training, by helping you to acquire the

skills needed to survey the literature, show you how to organise your work and how to keep records, and to present your results in a clear and coherent way. They will be able to provide you with guidance on good academic practice. The University also provides guidance and training in these areas.

Different research groups have different ways of organising these aspects of your training but a general overview of what is expected is provided in the programme timeline (see Appendix A)

2. Learn skills in addition to those specifically targeted at your research, such as communication skills, outreach activities (helping with open days, Millennium Maths Project), organisational (helping with seminars, workshops), teaching, computing, learning another language, etc.

We strongly recommend when planning your RD that you aim to undertake a combination of both research related and transferable skills training activities. Whilst direct experience is essential, formal training sessions provide valuable opportunities to take stock and think about best practice.

Recording and reporting on your activities

In June each year you will be asked to complete and return a log (template available on the website) giving details of the activities that you have undertaken to develop your skills, so please keep a record throughout the year of what you have done. The University provides the facility to download a customisable transcript of training that you have undertaken from different providers across the institution via the online RDLog system https://www.rdlog.admin.cam.ac.uk/.

University Researcher Development Programme

The Researcher Development Programme https://www.rdp.cam.ac.uk/ are the central providers of researcher development support and training for graduate students in the University. They have developed the Cambridge Researcher Development Framework (CamRDF), designed to help structure your RD and facilitate your development into a professional researcher. It's important to realise that the skills of a professional researcher will be helpful to you during your studies and beyond. The CamRDF helps you to prepare yourself in fifteen competencies that will be valued by both academic and non-academic employers in an increasingly interdisciplinary and international context. The work required to complete your research and write your PhD thesis is one part of that process, but you will also be able to learn through formal training and by applying your skills in non-research situations.

Faculty Researcher Development Programme

The Faculty Researcher Development Programme is open to DAMTP and DPMMS students and is organised into four key themes as set out in the table below. Current opportunities within each theme are provide here, with full details available on the website http://www.maths.cam.ac.uk/postgrad/phd-degree/researcher-development. Events will be advertised by email and in the Faculty News Bulletin.

A.	Training programme for new PhD students	B.	Supervision/teaching training
A1.	**SPS Core Skills Training Programme** *All first year PhD students are expected to complete this programme which has been designed as a starting point for your researcher development (http://www.maths.cam.ac.uk/postgrad/phd-degree/researcher-development/faculty-researcher-development-programme/sps-core-skills)*	**B1.** **B2.**	**Supervision and Teaching Training** *Mandatory training* **Mental Health Awareness**
C.	**Career development**	**D.**	**Transferable skills**
C1. **C2.**	**Grants and Fellowships Applications Toolkit** **Alumni in Industry Event**	**D1.** **D2.** **D3.** **D4.** **D5.**	**Mathematics and Science Writing** **Computer training for Maths students** **Training in public and schools' engagement** **STIMULUS** *(volunteering in schools)* **Lunch and learn events**

Other opportunities

There are other many other opportunities (e.g. Smith-Knight Rayleigh-Knight Prize essay; language training), and resources (e.g. Careers Service, National Training opportunities) available to you as a research student. Further details are available from the website (http://www.maths.cam.ac.uk/postgrad/phd-degree/researcher-development/overview-researcher-development-training-opportunities).

Further Information or Help

For further information on Researcher Development or careers advice, please contact:
The Researcher Development Administrator: researcherdevelopment@maths.cam.ac.uk
DAMPT Research Student Adviser: Professor Nick Dorey N.Dorey@damtp.cam.ac.uk
DPMMS Graduate Welfare Advisers: Professor Ivan Smith I.Smith@dpmms.cam.ac.uk or Dr Holly Krieger hkrieger@dpmms.cam.ac.uk
We encourage you to use your initiative and be proactive in developing your skills; if you have a new idea for training or would like information on funding for researcher development, then we would like to hear from you.

SECTION 4 – PROGRESS WITH YOUR PhD

During your first year as a research student your official status is probationary, and it is necessary to pass a progress examination before you can be registered for a PhD (there are similar arrangements across the University although the details may differ in other departments). The process varies depending on your Department.

You should keep a record of all courses, lectures and seminars you have attended or given on a Researcher Development Log (template available on the website). This includes, for instance, academic courses given as part of the MMath/MASt (Part III), which may form part of your training, as well as other training sessions and workshops. It is particularly beneficial for research students to attend research conferences, workshops or schools during their PhD, so you should list those you have attended as well as plans you may have for attending any in future. See Section 3 for further details.

DPMMS Registration Assessment

In DPMMS the progress examination is initiated in the third term, and involves you preparing a concise report, of no more than 1500 words, on the progress of your research. You may not have done any actual research at this stage, but that is no cause for alarm: write about what you have been doing and thinking about, and what you hope to do next. Your supervisor will be able to give you advice on what to include in the report. Although it does not form part of the formal progress examination, you are required to submit a Researcher Development Log alongside your 3rd term report. This will also be sent to your assessors for information.

The report will be read by two assessors, one of whom is normally your adviser. The assessors will complete a report form which is sent to your supervisor, the Department and the Degree Committee. The assessors can recommend: (a) that you are registered for the PhD; or, (b) that a decision regarding registration should be postponed until a further assessment has taken place.

The outcome of the assessment will be communicated to you via your Supervisor. If you are recommended for registration, your supervisor, the Department and Degree Committee will review the report and, assuming all parties are content with the recommendation, your student record will be updated to show that you are formally registered.

If the recommendation is that a further assessment is required, it is not a disaster. In this event, you will be informed of the recommendation and why it is being made. The most common outcome is that a further review will take place (usually in the fourth or fifth term). The details of the arrangements in your own case will be set out by the Department. Registration is perfectly possible after a second review, and such a delay in registration has no effect whatsoever on the eventual outcome of your PhD.

Second year: optional report and interview

The process of writing a report and holding a discussion about it has great educational value. It encourages you in the discipline of writing down your work properly and gives you the experience of expounding your work to those who have at least some understanding of your subject area. DPMMS therefore recommends that all students submit a more substantial report for review by, and discussion with, two assessors before the end of the second year

(usually in the 5th term). This process has no formal role, and therefore is a good opportunity to receive informal feedback on your work and progress. You should discuss the possibility with your supervisor if you would like to take advantage of this opportunity.

DAMTP Registration Assessment

There is a continual process of assessment in DAMTP to help ensure that you clear the registration hurdle and, indeed, to help you to submit your dissertation and complete your PhD successfully.

Before the end of your 3rd Term of research (the end of Easter Full Term for those starting in October) you will be required to prepare a short written report (no more than 1,500 words or about 4 sides of A4) summarising the work that you have done so far and giving an outline of future plans. In preparation for this review you will be asked to discuss your progress with your adviser, in addition to your supervisor. Writing the 3rd Term report will be a valuable exercise in clarifying and summarising your thoughts and goals. You will be sent further details of what is expected by the Graduate Office at the appropriate time. Copies of your submitted report will be passed on to your supervisor and the Director of Graduate Education.

4th Term Report and Interview

The PhD registration procedure in DAMTP (progress exam) involves a thorough assessment in the 4th Term of your research (so for students starting their PhD in October 2019, this will be carried out in October/November 2020). The assessment is based on a substantial report written by you, followed by an interview and discussion with two assessors. Provided the assessors are satisfied with your progress, they will recommend that you be registered for the PhD.

The 4th Term reports and interviews are organised by Assessment Co-ordinators (members of the Graduate Education Committee in DAMTP) in conjunction with the Graduate Office. You will need to start planning your report well in advance and you will receive an e-mail over the summer which explains the procedure in detail, but here are some of the most important points.

Your report should be typeset and typically between 15 and 20 pages long. It should describe clearly the general area and background of the problems you are working on, previous work by other people which is especially relevant to what you are doing, the progress you have made to date with your research, and (very importantly) the plans you have for how your research is going to develop over the next two years. When writing the report, you should bear in mind that the assessors will not necessarily be experts in the precise problem on which you are working, but they will be able to follow the technical details of your work if clearly explained. You should also give prominence to any new results which you have been able to obtain. It is important that you write the report yourself, although of course your supervisor will be able to give you advice. You should also feel free to contact one of the assessment coordinators if you have questions.

You will be given a deadline for submitting your report, usually within the first few weeks of your 4th Term. The assessors will then contact you to arrange a suitable time for an interview, and this should normally take place by just over half way through the Term.

The 4th Term interview typically lasts about an hour. Although this is part of a formal progress examination, the interview will usually involve a discussion of a fairly informal kind between you and the assessors about the content of your report. Much of the discussion will be technical in nature, but the assessors will also want to ask you about other issues, such as supervision arrangements and the range of courses etc. that you have attended. Students invariably find the interview a helpful and stimulating experience and of course the assessors will take a close interest in your subsequent work and be happy to offer further advice and help.

On the basis of your 4th Term report and interview, the assessors will write a joint report summarising their views on your progress so far. Copies of the assessors' report will be sent to your supervisor, the Director of Graduate Education and the Degree Committee. Your supervisor will discuss its contents with you as soon as they receive it. The report will usually contain a number of helpful suggestions about your research.

If the assessors recommend registration for the PhD and your supervisor agrees with the recommendation, the Department and Degree Committee will confirm your registration with the University and your student record will be updated. If the assessors are unable to recommend registration then there would usually be an agreed period in which you and your supervisor work together to address any problems, typically followed by a further interview. (Discussion with the DAMTP Director of Graduate Education or Research Student Adviser may be helpful at this stage.) In the unlikely event that progress is still not satisfactory then it may be necessary to consider alternative options, for example registering for an MSc by research.

You should be kept fully informed by your supervisor. The assessment co-ordinators are more than happy to discuss the process at any time. If you are concerned about the progress of your research and would like independent advice, you are encouraged to contact the Director of Graduate Education or Research Student Advisor.

Smith-Knight Rayleigh-Knight prize essay

In the second year research students whose progress justifies it are encouraged to submit an essay in the Smith-Knight Rayleigh-Knight competition (http://www.maths.cam.ac.uk/smith-knight-rayleigh-knight-prizes). While it is rare at this stage that you will have done enough for a thesis or even a paper, it is a worthwhile exercise to write up your results. The essays are read by experts and graded by a panel consisting of some of the Professors in the Faculty. It may prove an extremely useful starting point when you begin to write your thesis, and the process also gives you a chance for self-reflection and to your review your progress. The rewards are modest, and the ranking of papers can provide unwelcome comparisons; nonetheless we would encourage you to take advantage of the opportunity, and to do so without attaching too much consequence to the outcome. Although the essays are not part of the formal assessment process, they offer an excellent opportunity to present your work in a clear and coherent manner, gain a possible cash prize and, were your essay to be graded in a high category, a very useful entry on your CV. In terms of experience you have nothing to lose and everything to gain. The deadline is the first day of Full Lent term. You will get an email reminder nearer the time.

Between registration and submitting

Hopefully the registration process, and submitting a prize essay will have revealed profitable avenues to explore, and attempting to frame your own conjectures and write your own proofs will take up an increasing proportion of your time. You will have established a good relationship with your supervisor and found sources of support to complement that which your supervisor is able to provide.

Do not be surprised or discouraged if you feel as if you are getting nowhere. A thesis often depends on one small observation. Even established mathematicians have the experience of chasing blind avenues for months before stumbling on the solution, or even a completely different result than the intended one. Keep coming in to the Department. Keep going to seminars and courses. Pay even closer attention to the work of colleagues in neighbouring fields; when the obvious methods don't work, sometimes methods from other fields can be adapted. Keep talking; try explaining what you need to your colleagues. Often the process of trying to explain what you are looking for clarifies the situation so that you can see what you need.

By the time you come to write up your final thesis, you should have attempted to write at least three pieces of work, and indeed much of the background material and even the new material will have been presented in seminars. This will make the task of finalising your thesis easier, but do not underestimate the time it takes to produce the final version and start drafting chapters well in advance of your target completion date.

Submitting your PhD and the Examination

The Faculty Degree Committee is responsible for overseeing PhD examinations, and the administration is undertaken by the Graduate Office. Guidance and forms are available from http://www.maths.cam.ac.uk/internal/degreecommittee/exam-procedures.

By the middle of the third year, large portions of your research project should be nearing completion. You should start drafting chapters of your thesis well in advance of your target completion date.

When you and your supervisor judge that your dissertation is around two months from completion, you send in an Appointment of Examiners Application Form, calling for examiners to be appointed, and giving the date of submission. The names of two examiners (one usually from your or a related group, one from outside the Department) are suggested by your supervisor, and formally appointed by the Faculty Degree Committee. You will be advised of the confirmed appointments in advance of submission, and have the right to appeal against an appointment if you believe there might be a potential conflict of interest.

Please ensure that you read the University statement on plagiarism. www.admin.cam.ac.uk/univ/plagiarism/students/statement.html Students should be aware that under University Policy any work submitted for assessment purposes may be submitted to Turnitin UK (text-matching software) for screening. Further details are available at https://www.plagiarism.admin.cam.ac.uk/turnitin-uk.

The actual process of getting the thesis bound and submitted must be done in accordance with University guidelines: https://www.admin.cam.ac.uk/students/studentregistry/exams/submission/phd/.

Prior to the oral examination, students are able to make a voluntary disclosure on grounds of disability or serious illness which will allow the examiners to make reasonable adjustments to the oral examination. Application is via the Degree Committee. See the website for further details, or ask the Graduate Office.

The examiners will contact you to arrange for the oral examination. Your supervisor will not be present at this, and it may well last 2 to 4 hours. The oral examination can take several forms, but typically you might be asked to give a short presentation and then be asked detailed questions on your dissertation. Your supervisor can normally offer you advice as to how to prepare. At the end of the oral exam you will normally receive some (purely unofficial) indication of the recommendation that the examiners will make to the Degree Committee.

The possible outcomes of the examination are given at the Board of Graduate Studies website http://www.admin.cam.ac.uk/offices/gradstud/current/examination/. Briefly, the possible recommendations are:

a. the thesis is satisfactory for the award of the degree sought (pass); or
b. the thesis should be approved subject only to correction (i.e. the thesis is essentially of a standard for the degree sought providing certain matters are put right to the satisfaction of one or both Examiners) (conditional pass)*(this is the most common outcome)*; or
c. the thesis requires revision such that the Examiners are unable to recommend the award of the degree sought without a fresh examination of a revised thesis. If the revision required is very substantial, the Examiners may indicate that a lower degree might be offered in lieu of revision for the degree sought. ('referral'); or
d. the thesis can be approved for a lesser degree only or for no degree (failure).

When approval is deferred until more work has been done, a second oral examination is sometimes necessary. With all the safeguards and assessment that has preceded the examination, it is most unlikely that a thesis will be rejected outright at this stage.

All students submitting the final hardbound version of their doctoral thesis will also be required by the Board of Graduate Studies to submit an electronic version. Electronic theses should be submitted to the University's repository Apollo https://www.repository.cam.ac.uk/.

SECTION 5 – SUPPORT AND DEALING WITH PROBLEMS

Although in the vast majority of cases a student's time passes in a trouble-free manner, there can be occasional problems. These might be personal in nature, or stem from failure to make progress with research. The Faculty is committed to the welfare of students and there are various people you can turn to for help and advice. The first, of course, is your Supervisor; a second is your Adviser. In addition, the Director of Graduate Education (DGE) and the Research Student Adviser (RSA) are available to offer help and guidance to research students in difficulties, and to act as moderators in case of any complaint or disciplinary matter. Please contact one of them as soon as possible if there is a problem that is hindering your progress. Contact details are available in Section 6.

Students with personal difficulties may also turn to their College Tutor, or the University Counselling Service: www.counselling.cam.ac.uk The Students' Unions' Advice Service provide independent advice for anything ranging from procedural matters to welfare support. Their website (www.studentadvice.cam.ac.uk) also lists all the University's support organisations for various different things.

The Student Welfare website is a useful resource which includes a directory of advice and support for dealing with specific issues: https://www.studentwellbeing.admin.cam.ac.uk/

Dealing with Difficulties

It is the intention to resolve problems or disputes within DAMTP, as far as possible.

(a) *Academic problems*

1. Informal Procedure

   If any serious academic problem (including lack of progress) becomes apparent, or any serious dispute between a student and a supervisor should arise, then the DGE or RSA should be consulted. The DGE or RSA will discuss the problems with the student in confidence and offer advice. If the problem is not resolved after a reasonable time, then the next step would normally be for the DGE or RSA to arrange an informal meeting with both student and supervisor to try to sort out any misunderstanding or disputes. The aim is to improve the relationship and communication between them so that a fruitful working relationship can be resumed. The DGE or RSA may on occasions find it necessary to consult the Head of Department.

If the informal procedure does not work, it may be necessary to follow a more formal procedure.

2. Formal Complaints Procedure

   For students who wish to make a formal complaint against their supervisor or to complain that they have not been permitted to continue on to a PhD, the procedure below will be followed:

- the student will be asked to prepare a written complaint and the DGE will ask the supervisor to prepare a response.

- the DGE will then review all the documents, including the reports made by the supervisor on the student, and vice versa.

- the DGE will meet with the student and a friend (to be another student or Graduate Union Representative) and meet separately with the supervisor. The DGE will then provide a judgement on the case to both parties.

- if the student or supervisor is not satisfied with the result, then the DGE will pass the paperwork, together with his written judgement (giving reasons), to the Head of Department, who will convene an *ad hoc* panel to consider the matter. The panel would consist of the Head of Department and three members of staff not in the group concerned but in cognate subjects (this may include a member of staff in a cognate subject from another department). The panel would be supported by one of the Departmental Administrators.

- the panel would have all the documentation available and would have the obligation to speak to the student (who might be accompanied by a friend or an Officer of the Graduate Union) and to the supervisor. The panel could, at its discretion, also call the DGE.

- the panel's decision, which - for the Department - will be final, will then be transmitted to the student, the supervisor, the Degree Committee, College and Board of Graduate Studies.

(b) *Disciplinary Problems*

Any complaint about a student's conduct will initially be referred to the DGE. If a *prima facie* disciplinary case is found, and if the matter cannot be resolved by negotiation between the parties (first trying an informal approach), then the complaint will be referred to an *ad hoc* panel as in (a) above.

In either of these cases, if a student does not accept the judgement of the DGE or the panel, then there is normally a right of appeal to University disciplinary bodies. The DGE and/or the student's Tutor can advise about the options available; see also the University web page http://www.admin.cam.ac.uk/students/gateway/appeals/.

It is very rare for a PhD student to encounter serious difficulties. When he or she does, it is the Faculty's policy to offer help and support, to enable the PhD student to successfully complete his or her studies.

SECTION 6 – KEY CONTACTS

Those who will be of chief importance to you in your life in the Department are your supervisor(s), your adviser, as well as your peers and colleagues. Beyond these, there are some who have particular roles.

Director of Graduate Education and Research Student Adviser (DAMTP) / Graduate Welfare Adviser (DPMMS)
Each Department has an appointed Director of Graduate Education (DGE) to oversee the PhD programme, as well as a first point of contact for research student welfare. In DAMTP this is called a Research Student Advisor (RSA) and in DPPMS a Graduate Welfare Adviser (GWA). If you have a problem which cannot be resolved by your supervisor or adviser then you can talk to the DGE or RSA/GWA about it. The current DAMTP DGE is Professor Natalia Berloff (graddirector@damtp.cam.ac.uk) and for DPMMS it is Dr Tom Fisher (T.A.Fisher@dpmms.cam.ac.uk). The current DAMTP RSA is Professor Nick Dorey (N.Dorey@damtp.cam.ac.uk) and the DPMMS GWA is Professor Ivan Smith (I.Smith@dpmms.cam.ac.uk) or Dr Holly Krieger (hkrieger@dpmms.cam.ac.uk).

Faculty Graduate Office
The Faculty Graduate Office (GO) provides a shared administrative service for both Mathematics Departments. It is located in C0.15, just by the Pavilion C common room. Femke Cole (damtpres@hermes.cam.ac.uk) is the lead administrator for DAMTP research students, and Tessa Blackman (purephd@maths.cam.ac.uk) for DPMMS. They will be your main GO contacts throughout your studies. Alice Wood (grad-administrator@maths.cam.ac.uk) manages the GO and can advise on routine and non-routine matters. A list of the full team and who to contact is available here: http://www.maths.cam.ac.uk/internal/admin/graduate-office.

Departmental Administrators
Hannah Fox (B1.30, damtpsec@maths.cam.ac.uk) is the DAMTP Departmental Administrator and Vivien Gruar (C1.20, dpmmssec@maths.cam.ac.uk) is the DPMMS Departmental Administrator (DA). They have administrative oversight of each Department, its finances and strategic planning. They work closely with the Heads of Department, DGE and other senior academic staff. Hannah is Secretary to the DAMTP Departmental Graduate Education Committee. Vivien is Secretary of the Degree Committee. They can both provide advice on finance and non-routine matters.

Heads of Department
Professor Nigel Peake is Head of DAMTP.

DPMMS divides into two halves, Pure Mathematics and the Statslab. Professor Richard Samworth is Director of the Statslab, and Professor James Norris is Head of DPMMS.

If there are problems within the Department which supervisors or the Director of Graduate Education or Research Student Adviser cannot sort out, the Head of Department is your ultimate resource.

Faculty Undergraduate Office
The Faculty Undergraduate Office (UGO) is in B1.28 and provides a shared administrative service for both Mathematics Departments. You might come across them if you volunteer help with exams (further information will be circulated during the year). They also manage the Lecture List. The team consists of Kati Sexton (Manager), Caroline Bell, Denise Champion and Mycroft Rosca-Mead.

Department Finance Office
The Finance Offices deal with finance queries and expense claims.

For DAMTP, the office is B1.27 and your contacts are Jon Foulkes and Sue Burnham.

For DPMMS, the office is C1.19 and your contact is Angela Smith (Tuesday and Wednesday only). Arti Sheth-Thorne deals with DPMMS ERC Grants and is based in C1.05.

Department Support Staff
June Rix (B1.34) is Personal Assistant to the Head of DAMTP and should be contacted first if you need an appointment. For DAMTP students, there is a Pavilion or Group Secretary who will be able to assist with DAMTP office keys and other logistical matters.

Julia Blackwell (C1.01) is Personal Assistant to the Head of DPMMS, and the Director of the Statslab and should be contacted first if you need an appointment. Julia organises office allocations for DPMMS PhD students. Charlotte Thompson-Mitchell (C1.05) handles the DPMMS office keys, as well as stationery ordering and seminar refreshments.

SECTION 7 - GLOSSARY OF DEPARTMENTAL INFORMATION

Access and Security at CMS

The main doors into Central Core are normally unlocked on weekdays between 8.00am-5.30pm, and on Saturdays from 8.30am-5.00pm in term time. Magnetically locked doors should not be propped open, or the alarm will sound. You need a *University Card* to unlock exterior doors and interior doors outside core hours. ***Keep your card on you at all times.***

Your College is responsible for providing you with a *University Card*, but it will need activating to work at CMS and will give you 24/7 access. Ask at Reception for activation of your card. If you wish to have out-of-hours access to the Betty and Gordon Moore Library, you will also need to take your card there for programming.

If you lose your card report it immediately to Reception (65000) reception@maths.cam.ac.uk

Do not let strangers without keys or entry cards into the buildings. Close manual windows and lock manual doors if you are the last to leave.

The University is not insured for *theft* of, or damage to, your personal property while you are on University premises, so if you bring a computer with you, you should take out insurance for it. The University is insured for *accidental personal injury* to staff, students and visitors while they are on University premises, *but only where the accident was due to fault on the University's part.*

Bicycles

There are cycle racks at several points around the CMS site - please use these. A good lock is a necessity! Please take care **not** to lock your cycle to neighbouring cycles. *Cycles are not allowed inside the buildings or inside the courtyard between the Gatehouse and Pavilion A.*

Cars

Unless you are registered disabled (and even then a place cannot be guaranteed) you will not be allocated parking.

Catering Facilities and Common Rooms

The central dining facility is open from 09:00 to 16:00 for snacks, light lunches and coffee and tea. Please ensure you return your trays to the collection points and place all unwanted items in the appropriate bins. All cafeteria plates, cutlery, napkins etc. are made from Vegware and are biodegradable and should be placed along with any waste food in the bins marked as compostable waste. There are coffee machines in the common room in each pavilion and vending machines in Pavilion A and the Betty and Gordon Moore Library. Each pavilion has its own common room with fridge, kettle/water boiler, microwave and Flavia coffee machine; drink sachets for the Flavia machines can be purchased from Reception. Please wash and clear away any crockery and cutlery after use. The refrigerators should not be used for long-term storage of food as space is limited. Milk and sugar for drinks are provide free of charge.

It costs the University twice as much to dispose of general waste as it does for mixed recyclables waste and one of many green initiatives within the University is to recycle as much waste as possible. CMS has one of the best recycling rates within the University; please help us maintain and better this by thinking carefully about how you should dispose of the waste in your office / common rooms and select the correct waste stream.

Children
Children brought onto the site should never be left unaccompanied. Children under the age of 12 are not allowed on the grass roof. Children should not be brought into the site routinely; the buildings are not designed and above all not used with their safety in mind (e.g. building work, doors and windows with automatic closers, congested car park, etc.). Anybody bringing a child into the site is responsible for that child's safety whilst he/she is on the premises.

The university offers some help with childcare (see:https://www.childcare.admin.cam.ac.uk/).

Computing
New students are provided with information on getting started with IT, including the Maths Computer System at induction. Full information about your departmental computing services, including printing, are given at http://www.maths.cam.ac.uk/computing. For help and support with computing please email help@maths.cam.ac.uk / Ext. 66100.

Do not move computers without contacting the Computer Officers.

It is important that your computer monitor is running at the correct resolution for you. Please contact help@maths.cam.ac.uk if there is a problem.

Health and Safety or Work Station set up - It is important that your '*work station*': your desk, chair and computer, are set up correctly for your personal needs. If you require assistance in setting up your 'work station' you should contact June Rix (hod-sec@damtp.cam.ac.uk) who is able to offer students general advice and guidance on how to do this. June can also be contacted by students who have a diagnosed biomechanical condition that may require additional help with their work station set up.

Disabled Students
The building was designed for universal access but please contact Mick Young (66915) for advice on your detailed access requirements. For the full range of support available via the Disability Resource Centre, please see http://www.admin.cam.ac.uk/univ/disability or contact your department Disability Liaison Officer: Hannah Fox (37863) for DAMTP or Vivien Gruar (37996) for DPMMS.

Electrical Equipment
Generally no portable electrical equipment should be brought into the Department apart from laptops and phone chargers and they must be in good working order and safe to use, if in doubt it should be checked by the CMS Facilities Team technicians. Please email facilities@maths.cam.ac.uk . If required, office fans, lamps and supplementary heaters can be provided by the Facilities Team. Portable appliance testing (PAT) is carried out across the department every 2 years. Any redundant electrical items or batteries should be disposed of in the dedicated waste streams for such items.

Expenses (incl. travel)
Standard expenses (such as postage, phone, photocopying, fax, stationery, etc) are not normally charged for but must be work related. This policy is possible only because it is not abused, e.g. people do not make long national or international phone calls (note that phone calls are automatically logged). For unusual expenses, please contact David Page-Croft (37842) if it involves laboratory materials or your Department Finance Office for anything else.

Travel expense forms are available on-line (http://www.damtp.cam.ac.uk/internal/admin/) and should be signed by your supervisor and returned to the Department finance office. If you claim travel expenses, you are required to produce receipts for all items.

Faults
Report faults in your room (such as radiator or lights not working) to the Facilities Team by emailing facilities@maths.cam.ac.uk. Serious faults that may affect the safety of occupants or security of buildings should be notified immediately during office hours to Reception (65000) or, if out of hours, to Security (31818).

Fire Safety
Familiarise yourself with entrances, emergency exits and fire-alarm assembly points. In the event of the fire alarm sounding, leave the building by the nearest exit. ***Do not re-enter the building, even if the alarm has been silenced, until advised to do so.***

The external doors do not unlock automatically for security reasons; exit in the normal way. Assembly points are shown on posted site plans and Fire Wardens will direct you. Do not attempt to enter another building if the alarm is sounding there also.

In an emergency, and in the event of doors failing to open, break the glass in the **green** "break glass" boxes located alongside each door. Please report this to Reception/Security, as the doors will remain unlocked until the glass is replaced.

Fire alarms are tested in each building every Wednesday morning between 08:30 and 09:00. The alarm will sound for only a few seconds and for this brief period only it can be ignored; if the alarm continues to sound please evacuate the building. Fire Safety training is provided at CMS in Michaelmas term and you are encouraged to attend.

First Aid
First Aiders may be summoned via Reception (**65000**). First Aid boxes are held in each common room in one of the cupboards and a First Aid room is located in the lower ground floor of Pavilion F. There is an automated external defibrillator (AED) sited on the buttress adjacent to reception leading to the entrance to Pavilion G common room.

If an accident occurs outside normal office hours, telephone Security on 31818. The emergency number for FIRE, POLICE or AMBULANCE is **via Security on 101, or 1999 on any network phone**.

All incidents must be reported to Reception, and a report form completed. Forms can be downloaded from http://www.safety.admin.cam.ac.uk/publications/hsd020e-accident-dangerous-occurrence-and-incident-report-form. The completed form should be handed to reception or emailed to reception@maths.cam.ac.uk .

Keys
A key to your office is obtainable from Jon Foulkes / Sue Burnham (Room B1.27) (DAMTP students) or Charlotte Thompson-Mitchell (C1.05) (DPMMS students). You might have to pay a returnable deposit of £10. ***Keep your office door locked at all times when the room is unoccupied. Do not leave any valuables unattended.***

Laboratory
The GK Batchelor Laboratory occupies the basement of Pavilions A, C and H. Members who wish to carry out experimental work there should contact the Laboratory Director **Prof. Stuart Dalziel** (37911, S.B.Dalziel@damtp.cam.ac.uk). New arrivals should always make themselves known to the Laboratory Safety Officer, **Dr Mark Hallworth**, (37841, mah14@cam.ac.uk) who will provide a laboratory induction and Risk Assessment advice, and authorise their access card to be programmed for lab access.

Library
The Betty and Gordon Moore Library, located on the CMS site, is the main mathematical, physical and biological sciences library of the University. Detailed information is available from http://moore.libraries.cam.ac.uk/. Please note that you must register when you first use the Moore. Having done so, students are entitled to full borrowing rights and 24-hour access.

Other libraries in Cambridge may be relevant to graduate students. For example, the University Library in West Road holds a large collection of older mathematical material. A complete listing of Cambridge libraries may be found at:
https://www.libraries.cam.ac.uk/libraries-directory/libraries-a-z

The library discovery system is iDiscover http://idiscover.lib.cam.ac.uk. Use this to search the University's libraries print and online collections using a single search.

There are many specialist print and online resources to support mathematical sciences in Cambridge, please see the Maths LibGuide at: https://libguides.cam.ac.uk/maths.

You may find that you have to search existing academic literature for your work. The Betty & Gordon Moore Library's Research Support team will be happy to help you do this so get in touch with them to book an appointment: moore-rso@lib.cam.ac.uk. The team also offers useful training sessions on a range of topics and they are advertised to all Maths students throughout the year.

Mail Services
Long-term members of the Department have their own pigeonholes; others (including research students) have shared pigeonholes allocated by first letter of surname. The pigeonholes are on the ground floor of Pavilion A, near to Reception.

Outgoing mail should be placed in the trays in Reception, before 15:00 on weekdays. A University Messenger Service circulates between the University's departments and Colleges. Mail is collected by the UMS daily, and needs to be in the trays in Reception by 10:00. There are no mail services at weekends. Please ask Reception if you have any queries.

Phone
Dial 9 before the number to obtain an outside line. Student phones are restricted for outgoing calls to local calls only. University numbers are mainly 3*nnnn*, and outside callers have to prefix another 3 to the number. For those numbers starting with 6*nnnn*, callers from outside need to prefix with a 7. If you need access to a telephone directory, please contact your Group Pavilion Secretary.

Photocopying
One copier is generally available in each pavilion. In DAMTP codes may be required - please ask your Group / Pavilion Secretary.

Safety
The CMS Safety Officer, Mick Young, will give a short safety briefing for new students as part of the Introductory Meeting. It is important that all members of the Department staff observe safe working practices and inform the appropriate Safety Officer or the relevant Departmental Administrator, if they see anything giving cause for concern. The CMS safety policy is available at http://www.cms.cam.ac.uk/site-safety-policy

All accidents or near misses should be reported, whether or not they involve personal injury. Accident report forms are available from Reception and online at http://www.safety.admin.cam.ac.uk/publications/hsd020e-accident-dangerous-occurrence-and-report-form and the completed form should be submitted to the Laboratory or Site Safety Officer as appropriate.

Site Officers are:
- For the Laboratory: Dr Mark Hallworth (37841) mah14@cam.ac.uk
- For the rest of the CMS site: Mr Mick Young (66915) CMSfacilitiesmanager@maths.cam.ac.uk
- For DAMTP: Hannah Fox, Departmental Administrator (37863) damtpsec@maths.cam.ac.uk
- For DPMMS: Vivien Gruar, Departmental Administrator (37996) dpmmssec@dpmms.cam.ac.uk

Seminars
Lists of forthcoming seminars within DAMTP, DPMMS and the nearby Isaac Newton Institute for Mathematical Sciences are displayed on the screens in the common rooms and Pavilion A and on the relevant web pages. See also www.talks.cam.ac.uk

Smoking
Smoking, including electronic cigarettes and vapour pipes, is not allowed in any of the CMS buildings and is actively discouraged near entrances or automatic vents and windows. Ashtrays are provided beneath the cycle shelters around the perimeter of the site and the circular seating areas outside the main entrance to Central Core.

Stationery
Each Department has a stationery store. A key for the stationery store can be obtained from Reception or your Pavilion / Group Secretary (DAMTP students) or C1.05 (DPMMS students). The Department provides blank CD-ROMs for data backup; please consult the Computer Officers.

Travel Insurance
If you are travelling abroad on University business, for example attending a conference or workshop, you must take out the University's travel insurance policy. This is a single trip policy and can be obtained on-line: https://universityofcambridge.chubbinstanda.com/Public/Index. Your Department Administrator can provide further information.

APPENDIX A: RESEARCH STUDENT TIMELINE

Year 1	
October	Faculty and Department Induction
	Graduate Safety Training
	Supervision Training (Maths Specific)
November	SPS Core Skills Training Programme (automatic enrolment to Moodle)
Variable	It is expected that in your first year you will give at least one talk either to your group, or as part of a specific activity (e.g. RD workshop)
March	Student Meeting: Registration process and requirements
June, last day of Easter term	3rd term review
	Researcher Development Log submission
Year 2	
October	4th term assessment: report submission deadline (DAMTP only)
	4th term assessment: presentation to and discussion with assessors (DAMTP only)
January	Smith-Knight Rayleigh-Knight Prize essay deadline (first day full Lent term)
	Fifth term assessment (optional but recommended) (DPMMS only)
Variable	In most research areas, there will be a 'seminar' afternoon during your second year when all second year students will be expected to give a talk on their work to a broad audience.
June	Researcher Development Log submission (last day Easter term)
Year 3	
Variable	In the third year, it is expected that you will give a full-length seminar at DAMTP and/or a seminar at another institute and/or a talk at a conference.
June	Researcher Development Log submission (last day Easter term)
Year 4	
	You should aim to complete the write up of your thesis within your 10th term
	Two months prior to submission request appointment of examiners
September	Submission Deadline