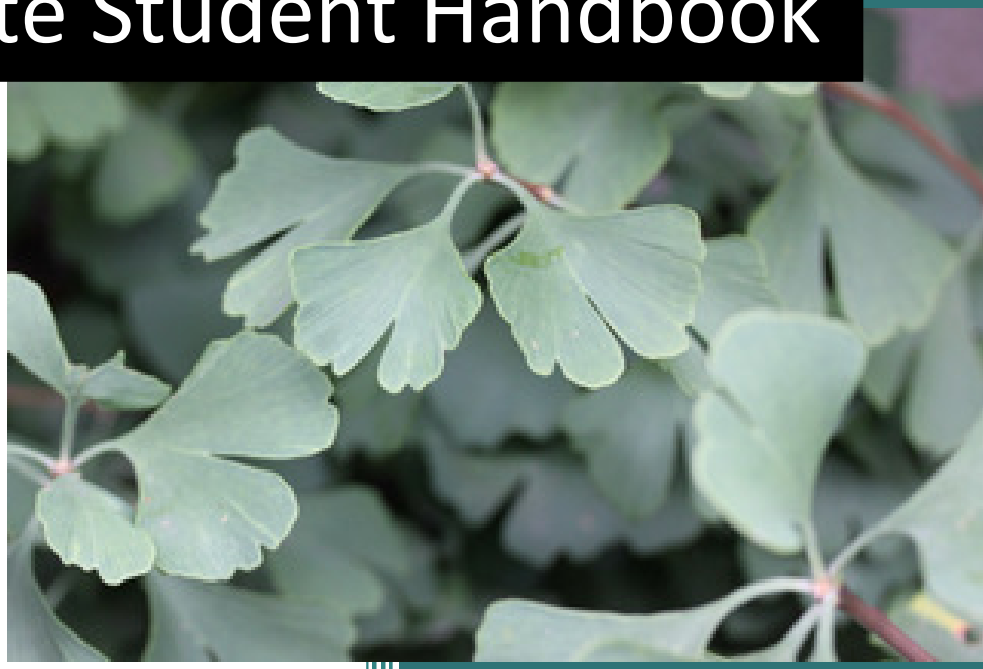
2020-21

Department of Plant Sciences Postgraduate Student Handbook



Athena SWAN Bronze Award

EU GENDER CHARTER

UNIVERSITY OF CAMBRIDGE

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1 INTRODUCTION

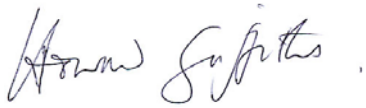
Welcome! This handbook is part of the induction material you are receiving at the start of your initial registration through the Department of Plant Sciences. In addition, you will be receiving an Induction Pack including Health and Safety Information which will also include your Postgraduate Log. By now, we are becoming acclimated to the challenges of interacting remotely, but we also appreciate that you are joining the Department at a time when we have to be acutely aware of the health and safety for needs and concerns of all staff and students, whether postgraduate or undergraduate. We also recognise that laboratory access and interactions within Research Groups may be restricted for the time being, but hope that a programme of events and activities will provide an additional introduction to who's who in the Department.

This handbook contains important information about being a postgraduate student in the Department. There are two parts, the first describes the Departmental Policy on Postgraduate Students, whilst the second covers the practical and logistic aspects of working in the Department or allied research group. In brief, this provides an outline of the training programme we provide for you and the means by which your progress will be reviewed.

Please read this document carefully and refer to it throughout your time here. Information is also displayed on the Departmental website. Your funding body may also provide useful training information, and you must ensure that you abide by their terms and conditions throughout your sponsorship period. Most administrative tasks you will need to undertake will be through your CamSIS Self-Service account, or by email to the Postgraduate Student Administrator (pgadmin@plantsci.cam.ac.uk).

Your supervisor and their associated research group, together with additional advisors, and those associated with the Postgraduate Education Committee, are here to provide the advice and support you need during your postgraduate programme. This includes undertaking an original programme of laboratory or analytical research, and completion through the submission of the requisite thesis within the time period allotted for your registration. Extended postgraduate research provides very different challenges compared to the relatively short research programmes undertaken as Undergraduate or Masters' students, so please do use group meetings or informal exchanges with your postgraduate peers or supervisory teams to discuss any difficulties you may be experiencing. Despite the challenges of using remote platforms for communications, we hope you will be able to take advantage of the wide range of scientific expertise, training opportunities and social activities available across the Department, School of Life Sciences and your College. Ultimately, we hope the varied opportunities for academic engagement and discussion in Cambridge will provide a springboard for your future career. So enjoy your time in the Department, and be prepared to relish the challenges ahead.

Best wishes,



Prof Howard Griffiths
Chair, Postgraduate Education Committee, October 2020

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2 FOREWORD FROM THE HEAD OF DEPARTMENT

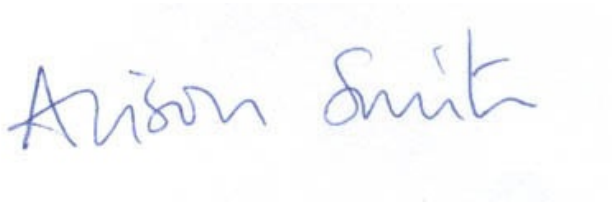
Welcome to the Department of Plant Sciences in Cambridge, a unique centre of learning and research into the fundamental plant processes that sustain life on earth. As well as providing teaching for undergraduates and postgraduates in plant-related subjects across the University, we focus on ensuring that the work we do can be applied to tackle the key challenges of food security, conservation of biodiversity, and supporting the bioeconomy, including reducing reliance on fossil fuels.

This year of course, we are living through unprecedented times because of the Covid-19 pandemic. We must put safety first for all members of the Department, students and visitors. We have introduced a number of Covid-secure measures including social distancing to minimise the risk of infection and these are detailed specifically in the Return to the Workplace (RTW) pack. Please take the time to read the information, and discuss any queries you have with your supervisor in the first instance.

During your time as a postgraduate student in the Department, we aim to train you to plan and execute your research project effectively, enabling you to focus deeply on one aspect of science for your PhD or MPhil. But you should also keep in mind the bigger picture. Increasingly, it is becoming essential to take a multidisciplinary approach to research, using approaches from outside your chosen field. This might mean talking with other groups in the Department, with colleagues from different biological disciplines, or even from physics, chemistry, engineering, maths and so on. The best way to engage is to read widely and attend the many seminars and other scientific activities that are available in the Department and the Sainsbury Laboratory, as well as elsewhere in Cambridge.

At the same time, as part of the additional training programmes that are available in the Department and the School of Biological Sciences, you will acquire skills that will equip you more generally for your future career whether it be in further academic research, or outside such as in education, industry or policy. In particular, we encourage you to talk with others about your work and theirs. You will be honing communication skills that are essential for modern scientists and, as well as picking up new ideas yourself, you might in return provide useful insight to others. Of course whilst we are limited in our ability to meet others in person, this will be more difficult than previously, but do take advantage of the online platforms for lab meetings, seminars and the Departmental Research Day. And the Postgraduate Committee in the Department and your College MCR are also developing innovative virtual get-togethers.

Despite the strange circumstances, I hope very much that you enjoy your time here, and that you get the opportunity to experience some of the vibrant and exciting scientific community in Cambridge. We pride ourselves on being a friendly and supportive place to work, holding an Athena Swan Bronze Award for Equality and Diversity, and we encourage you to participate in the life of the Department as much as possible. This year we will be focusing on gathering the experiences of all groups to understand how to ensure our practices are inclusive and to identify if we need to introduce changes or additional measures to support minorites.



Professor Alison Smith
Head of Department of Plant Sciences, Professor of Plant Biochemistry
September 2020

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3 A GENERAL INTRODUCTION TO POSTGRADUATE STUDIES

This document sets out the arrangements for postgraduates working in association with the Department, defining the responsibilities of the Student, the Supervisor, the Department and the support systems we have in place to facilitate the transition from the more structured undergraduate studies to independent research work. For the majority of students you will be joining a specific research group within the Department, working under a single supervisor. For students on the NERC, BBSRC and SBS DTP schemes, you will be associated with specific research groups, and the same responsibilities and monitoring procedures apply. However, you should also refer to the relevant DTP Handbook for specific details on your programme. Some postgraduates, together with their primary supervisor, may be based away from the Department of Plant Sciences in the David Attenborough Building, or at a University Partner Institution (UPI) such as the Sainsbury Laboratory at Cambridge University (SLCU), the National Institute of Botany (NIAB) or British Antarctic Survey (BAS). Finally, of course, there is also your College, which provides support for personal health and welfare issues through your College Tutor, as well as additional pastoral support and opportunities for more widespread engagement with life in Cambridge.

Impact of COVID-19 pandemic for the coming year
We recognise that for the time being our lives, and opportunities for personal interactions have been severely limited by the pandemic. Whilst the overall sense and deliverables outlined in this Handbook represent the traditional approaches to research support, training and monitoring of postgraduate progression, nearly all will have been modified in some way to maintain individual health and welfare as our utmost priority. Indeed, we will need to be continuously mindful of current safety procedures for engaging with your research group, and the contrasting regulations which may apply in specific buildings and allied facilities. We also need to adhere to Government guidelines, which may change the level of access permissible as the year progresses. Throughout the initial lockdown, and subsequent reopening, the PGEC has endeavoured to sustain contact with the postgraduate community, with regular updates and consultations. We will try to sustain this level of engagement, as well as offering an additional informal programme of activities. Please keep us informed of any concerns you may have as an individual, or on behalf of your colleagues, (pgadmin@plantsci.cam.ac.uk) as we navigate the complicating arrangements for 2020-2021.

3.1 Supervision

You will have a Supervisor who will be your mentor and you will be part of their research group. Your Supervisor is the main person to oversee and help you with your study. You may have a Second Supervisor appointed if your research is interdisciplinary and encompasses more than one research group or external institution. Once embarked on your PhD project, you will be assigned a Postgraduate Advisor who will be in a related area of research and who will support your overall progress. The Postgraduate Advisor is a second point of contact regarding academic advice (after the Supervisor). In addition you will be assigned a member of the Departmental Postgraduate Education Committee (PGEC) as PGEC Advisor. Should you have any worries then seek their advice either individually or collectively. Do so sooner rather than later.

3.2 The requirements for a PhD

The University requires 9 terms residence before you can submit for a PhD. In exceptional cases, where you have appreciable research experience, this can be shortened to 6 terms.

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Conversely, you **must** submit your thesis within 12 terms residence (48 months). It is essential that you realise that you are admitted as a probationary Postgraduate Student. To pass your probation, you will submit and be examined orally on the First Year Report (see Section 13.8). Assuming that you pass this hurdle successfully, you will be registered for a PhD, backdated to the start of your studies. It is important to recognise that some of you have a stipend funded for only 3 years, and others for 3.5 years or 4 years, and that you should work with your supervisory team to complete, where possible, within that time period.

The examination for a PhD involves two tests. Firstly, the written account of your research (referred to as a thesis, or dissertation) must be approved. The criteria used by the two Examiners (one internal and one external to the University) are as follows:

> *"Before recommending the award of the PhD degree the Examiners should satisfy themselves that the dissertation is clearly written, that it takes due account of previously published work on the subject, and that it represents a significant contribution to learning, for example, through the discovery of new knowledge, the connection of previously unrelated facts, the development of new theory, or the revision of older views."*

In addition, you must pass an oral examination in which:
"*The Examiners should jointly examine the student on the subject of the dissertation and the general field of knowledge within which it falls".*

When you come to write your thesis, your knowledge and understanding of the general field of your research must be sufficiently complete, critical and authoritative to allow you to talk on more or less equal terms with your Examiners. The Examiners write separate reports on the thesis and a joint report on the oral and all have to be satisfactory for the degree to be awarded. In addition, you must have a clear knowledge of related fields. There is evidence from Examiners' reports that some candidates fare badly in their oral examination because they have not read widely enough or attended seminars by speakers outside their area of specialisation. This means that throughout your time as a Postgraduate Student you must read intensively and widely. You should discuss your work with colleagues in your own research group, and in other laboratories, and present progress in Research Group meetings. You are expected to attend all Departmental Seminars, not only those in your own field but also the more general lectures in the programme of Seminars in Plant Sciences, and at the Sainsbury Laboratory or other Departments. Postgraduate Students are expected to contribute to the general intellectual life of the Department. A PhD is not just a compilation of results on a single topic; it also requires an intellectual mastery of the subject and a clear understanding of the context of the work.

3.3 Requirements for a Masters by Research (MPhil)

The research MPhil degree essentially follows the format of the PhD but is compressed into one year of full-time study or two years of part-time study. The work consists of research and courses as required under academic supervision. MPhil students are required to undergo the same progress reviews as first year PhD students, with the exception of the First Year Report, instead of which they will produce their Masters thesis. This includes the drafting of a project proposal after four weeks and preparation of a thesis plan and outline four months in advance of submission date. The purpose of the project proposal is to accustom students to academic writing, and to provide an important opportunity to clarify their research project and the techniques to be used. The format of the Masters thesis is

much the same as the PhD thesis, however the word limit is set at 20,000 words, exclusive of tables, footnotes, bibliography, and appendices.

Full-time students are expected to submit their thesis within 12 months from their registration date (considering any intermissions that have occurred) and so:

- Students admitted in Michaelmas Term must submit by end of the following August
- Students admitted in Lent Term must submit by the end of the following Michaelmas Term
- Students admitted in Easter Term must submit by the end of the following Lent Term

The appointment of examiners up to two months prior to submission, submission procedures and the examination are again the same as for PhD students. However as your thesis is not deposited at the University Library you are not required to submit a hardbound version once corrections have been made.

More information on MPhil submission can be found on the University's Cambridge students' webpages.

4 CODE OF PRACTICE FOR RESEARCH STUDENTS

The Code of Practice for Research Students sets out what students should expect during their study in terms of supervision, support and assessment, as well as what the University expects of research students. Students, Supervisors and Advisors should sign a copy of this Code and the student then send a formal acknowledgement to the Postgraduate Student Administrator to confirm that they have read and discussed it. For details see https://www.cambridgestudents.cam.ac.uk/grad-code-of-practice

The Department has drafted an individual Concordat framing the mutual responsibilities of Postgraduate Student and their Supervisor, which should be agreed between each party at the commencement of their research programme. For details see *16.9 Appendix IX:* Research and Training Concordat for Postgraduate students within the Department of Plant Sciences

5 THE RESPONSIBILITIES OF THE POSTGRADUATE STUDENT

Just as your Supervisor and the Department have many responsibilities towards you, it is expected that you in turn have equally important responsibilities.

- To follow good working practices as defined by the Supervisor(s) (or Head of Research Group)
- To have a defined area of research by the end of the first year (for those undertaking PhD projects), and to have mastered the necessary technical skills to carry out the research
- To keep a notebook describing accurately and neatly the work that you do, the techniques that you use, the results obtained, and your interpretation of these results, which may be inspected regularly by your Supervisor(s)
- To have clear topics ready for discussion at meetings arranged with the Supervisor(s)
- To submit work regularly, on time and in a clear and readable form (preferably electronic as well as hard copy)
- To take note of guidance from Supervisor(s) and Postgraduate Advisors

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- To inform the Supervisor(s) of any detailed discussions you have had with people from outside your research group
- If there are any problems with your research work, to seek advice from the Supervisor(s), or Postgraduate Advisor or PGEC Advisor as soon as possible
- To attend all the lectures in the Plant Sciences Seminars series (or an equivalent in a different Department)
- To attend lectures, workshops and training courses suggested by your Supervisor(s)
- To attend all the compulsory Departmental training programmes for Postgraduate Students
- To submit within 48 months from starting on PhD programme, including DTP students

Terms of Study

Postgraduate students must keep a specific number of terms of research and/or residence as defined by the Statutes and Ordinances. For full details see https://www.cambridgestudents.cam.ac.uk/new-students/manage-your-student-information/graduate-students/terms-study

Holiday Entitlement

Postgraduate Research students are entitled to take periods of holiday at times agreed with their supervisor, provided that these do not exceed 8 weeks in a given year. For details see https://www.cambridgestudents.cam.ac.uk/new-students/manage-your-student-information/graduate-students/terms-study

Personal Progress/Development Log

As a PhD or MPhil student you must keep a separate training and progress log, in which you will record all seminars and lectures attended and given, training undertaken, the highlights of your research work, and your notes of the monthly and quarterly discussions with your Supervisor(s). It should also be used for personal development planning. This log will be quite distinct from your laboratory notebook(s) which should contain all the details of your research work. The Personal Progress/Development Log will be part of the first year assessment. It should be reviewed at the beginning of each year with the Supervisor and reviewed at the end of each 12 months. The form can be downloaded from your Postgraduate School of Life Sciences' (PGSLS) Student Moodle site.

Personal Wellbeing

Things don't always go well. It's important to discuss problems early on, there is no shame in this and it is not a sign of weakness or failure. Your College is the primary source of pastoral care, and your College Tutor should be the point of contact for health and welfare issues. You may wish to contact the University Counselling Service, which offers confidential support. For details please see https://www.counselling.cam.ac.uk/. If illness or personal difficulties have a sustained impact on your progress, then talk to your College Tutor and Departmental supervisory team about taking an intermission. This 'stops the clock' ticking on your project, and allows for a recovery period. Check the Student Registry website for details. Please note that your postgraduate stipend may continue for a short period of intermission, which can affect your financial status during any extended registration period which has been agreed by Student Registry. It is not permitted to apply for intermission during the final term of your registration period.

The University's Student Wellbeing pages also offer helpful sources of information and advice. For details please visit: https://www.studentwellbeing.admin.cam.ac.uk/

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Financial Difficulties
Please discuss financial difficulties with your College Tutor. The Department administers the Tom ap Rees Fund, which provides small sums (in the region of £400 - £500) in cases of financial hardship. Students will be invited to apply by email.

Further information on financial hardship support can be found at https://www.cambridgestudents.cam.ac.uk/fees-and-funding/financial-hardship-support-access-funds/hardship-funding

UK Border Agency Compliance and International Students
Universities are required to keep contact details of non-EU students (i.e. those needing ATAS clearance). The Department will administer this confidentially, but it is the student's responsibility to ensure compliance with the conditions attached to their visa, and to inform the College and Department of any changes. Information on this, and more on being an international student at Cambridge, can be found on the University's International Student webpages at https://www.internationalstudents.cam.ac.uk/

It is also requested that international students make themselves aware of any restrictions in place in their home country which may affect their research plan. (For example the US Federal loans course ineligibility mandate.)

Applying for a change in circumstance (student status)
Applications for such things as intermission (a break from study), leave to work away from Cambridge, or an extension to your submission date are considered changes to your student status. You can make an application for a change in your student status via your CamSIS Self-Service.

Intermission applies to periods longer than two weeks: a non-medical intermission is an authorised break from study for such things as maternity or paternity leave, family emergencies and internships or placements; a medical intermission is a complete break from study for medical reasons. Applications seeking approval are made via CamSIS, and the period of registration may be extended by the length of an intermission, although a postgraduate stipend may be limited to part of that period. The relevant funding body will be able to advise on any funding implications. Intermission can only be backdated by a maximum of 30 days from the day the application is made.

Leave to Work Away from Cambridge includes students wanting to study, carry out research, write up their thesis or complete corrections away from Cambridge for more than a two week period. Postgraduates who need to undertake fieldwork for extended periods can also apply to a Fieldwork Fund administered by the School of Biological Sciences (see Section 11). Please note that approval to work away can take several weeks, so you should submit your application at least two months before you plan to leave Cambridge. You cannot apply to work away retrospectively. You must obtain permission to work away before you leave Cambridge.

For full information on changes to your student status see - https://www.cambridgestudents.cam.ac.uk/your-course/graduate-study/your-student-status

Risk Assessment and Insurance
Prior to any period of working away, you should complete and submit a risk assessment for approval, and obtain appropriate insurance, even if the activity is less than the formal two-

week period. The only exception is writing up or completing corrections from your home address.

https://www.cambridgestudents.cam.ac.uk/your-course/graduate-study/your-student-status/work-away-cambridge

Working while studying
The University has strict rules on postgraduate students working whilst they are studying. Full information can be found at https://www.cambridgestudents.cam.ac.uk/your-course/graduate-study/your-student-status/working-while-you-study

6 THE RESPONSIBILITIES OF THE SUPERVISOR

(see also *16.9 Appendix IX: Research and Training Concordat for Postgraduate students within the Department of Plant Sciences)*

Your Supervisor will be closely involved with your research and will help you get the most out of your studies. The Department sets out the following responsibilities for Supervisors:

- The Supervisor will set out a plan or list of what is to be achieved during your period of research
- The Supervisor will have knowledge of the Student's area of research and a Second Supervisor may be appointed for interdisciplinary projects
- The Supervisor will arrange regular uninterrupted discussion sessions, ideally at least once a month for laboratory-based Students, and once every three months for field-based Students, to consider any immediate matters about the research programme
- In addition to the monthly meetings there will be more formal regular meetings with the Second Supervisor (if appropriate), and discussing progress with the Departmental Postgraduate Advisor is recommended to review the Student's progress and help them plan future work
- The Supervisor should arrange regular Research Group Meetings which provide a forum for postgraduates and postdocs to present and discuss current progress
- The Supervisor will maintain a written confidential file of the Student's progress
- At the end of each term your supervisor will make a very brief assessment of your progress via CamSIS which is reviewed by the Postgraduate Education Committee. This will be made available to you on your CamSIS Self-Service pages. The report should include positive developments, and progress is thought to be problematic, the Supervisor is required to note what actions are to be taken to improve performance
- The Supervisor will inform the Student if progress is unsatisfactory and arrange suitable action. The Second Supervisor, Postgraduate Advisor and the Postgraduate Education Committee may be asked to assist in this process
- The Supervisor will ensure the Student is familiar with laboratory techniques, goes on appropriate training courses, attends seminars and lecture courses, and meets other people working in the same field, with the opportunity to attend at least one international conference
- The Supervisor is expected to advise the Student how to prepare papers for publication and to write up the thesis, as well as present their work orally
- The Supervisor will ensure the Student's intellectual property rights are protected in accordance with University policy

7 THE RESPONSIBILITIES OF THE DEPARTMENTAL POSTGRADUATE EDUCATION COMMITTEE (PGEC)

Postgraduate Education Committee Chair

The Postgraduate Education Committee Chair, also referred to in the University's Code of Practice as the Director of Postgraduate Education, chairs the Department's Postgraduate Education Committee (PGEC). The PGEC Chair for the academic year starting 2020-21 is Professor Howard Griffiths. The role of the Director of Postgraduate Education is set out in the Code of Practice.

Postgraduate Education Committee Terms of Reference

Although Principal Supervisors have the prime responsibility for their postgraduate students, the Postgraduate Education Committee (PGEC) will oversee the progress of all registered graduate students at the Department.

The PGEC meets four times per year, normally at the beginning of each term, and at the end of June.

The PGEC, which is an advisory group for the Head of Department, has the following responsibilities:

Consultation

The PGEC will act as a resource and, if necessary, as an intermediary between the student and Supervisor and can be consulted on any matters of concern. Each postgraduate student will be assigned a PGEC member as PGEC Advisor, as well as a departmental Postgraduate Advisor who is familiar with the general area of research. In some circumstances a Second Supervisor is formally appointed.

Advisory

The PGEC will advise students on training opportunities and opportunities to participate in Departmental activities. The PGEC members will help postgraduate students promote their interaction with all members of the Department.

Personal

Students with health problems, concerns about their work or issues relating to activities in the Department should initially approach their Principal Supervisor (or any Second Supervisor), although Advisors (both Postgraduate and PGEC) are able to provide confidential advice and guidance, if needed. The College Tutor is an essential part of pastoral care, and should be contacted in any instance. The Supervisor(s), College Tutor and PGEC Advisor should all be consulted in advance of any formal request to amend registration status. If a problem cannot be solved by the above procedures, the matter will be referred to the Head of Department. We have also instigated a biannual "soft touch" Progress and Welfare Check-in, which allows you to report directly, and in confidence, to the Postgraduate Student Administrator (pgadmin@plantsci.cam.ac.uk) if you have issues or concerns about interactions in the Department or College.

Students funded by Research Councils should also contact their award administrator as a formal request to amend registration status may have funding implications.

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Monitoring and Assessment
The PGEC will monitor the students' progress by means of the First Year Project Proposal, Termly Supervisors Reports, First Year Seminar, First Year Report, Second Year Lab Presentation, Third Year Plan, Third Year Poster, Third Year Seminar and Fourth Year Plan.

Recommendation for internal awards
The PGEC considers applications to the Frank Smart Fund and the Fieldwork Fund.

8 THE RESPONSIBILITIES OF THE DEPARTMENT AND UNIVERSITY

The Department has the overriding aim to provide all registered Postgraduate Students with every opportunity for a broad education and a compatible environment in which they may complete a PhD or MPhil successfully. The Department will aim to provide guidance and, where appropriate, the facilities to allow Postgraduate Students to develop a number of different skills including:

- Research methodologies and the process of research including quantitative and qualitative methods and data analysis; project planning and management
- The effective use of learning resources including library and information technology
- Personal skills including oral and written communication, time management and team work skills, professional development and the preparation of curriculum vitae and employment applications
- A broad knowledge of the discipline in which the Student is working
- Technical training to enable the Student to undertake their research work effectively and efficiently
- Teaching experience by bringing to the notice of the Student the opportunities within the Department for supervising and/or demonstrating to Undergraduates
- Professional presentations

8.1 Equality, Diversity and Wellbeing

The Department of Plant Sciences is proud to be a supportive environment, and is committed to ensuring all can reach their full potential, regardless of gender, race, sexual orientation, age, religious belief or disability. The Department's Equality, Diversity and Wellbeing Committee, chaired by Professor Beverley Glover, provides a focus for our efforts. Details can be found at https://www.plantsci.cam.ac.uk/equality

The Department currently holds an Athena SWAN Bronze Award. We were awarded it in 2015 and retained it in 2019. Advance HE's Athena SWAN Charter was established in 2005 to encourage and recognise commitment to advancing the careers of women in science, technology, engineering, maths and medicine (STEMM) employment in higher education and research. In May 2015 the charter was expanded to recognise work undertaken in arts, humanities, social sciences, business and law (AHSSBL), and in professional and support roles, and for trans staff and students. The charter now recognises work undertaken to address gender equality more broadly, and not just barriers to progression that affect women.

We are actively involved in the University's Women in Science, Engineering and Technology Initiative (WiSETI), https://www.equality.admin.cam.ac.uk/projects/wiseti, a scheme aimed at increasing involvement of women in STEM subjects.

The University's Childcare Office can provide assistance and advice to those students with children, including operating three day-nursery facilities.

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8.2 Code of Conduct and Dignity@Work Policy

The Department is noted for its friendliness and ability to integrate students into its community. Staff and students alike are expected to adhere to the University's policies on dignity in the workplace - https://www.hr.admin.cam.ac.uk/policies-procedures/dignity-work-policy

We therefore expect behaviour to be appropriate. Behaviour is defined as inappropriate if:

- It is unwanted by the recipient;
- It is perceived by the recipient as violating their dignity and/or creating an intimidating, hostile, degrading, humiliating or offensive environment; and
- The behaviour could reasonably be considered as having that effect having regard to all the circumstances, including the recipient's perception.

These definitions apply whether or not there was an intention to cause the effect.

Inappropriate behaviour may include a number of specific behaviours - such as bullying, or harassment on account of sex (including gender fluidity), race, ethnic or national origin, colour, disability, sexuality, religion or belief, or age. Also, behaviour that may appear trivial as a single incident can constitute harassment or bullying when repeated.

We will always take breaches of the Code seriously. If you think that you have been treated inappropriately please contact your Supervisor (including at College) or other staff member.

Following this Code of Conduct helps ensure equality of opportunity and a secure environment in which everyone can do their very best.

The Department of Plant Sciences fully supports the University's policy to protect the dignity of staff, students, visitors to the University, and all members of the University community in their work and their interactions with others.

The Department expects all members of its community to treat each other with respect, courtesy and consideration at all times. All members have the right to expect professional behaviour from others, and a corresponding responsibility to behave professionally towards others.

The University of Cambridge's Dignity at Work policy statement explains this commitment and what action can be taken if its principles are not observed. For details see https://www.hr.admin.cam.ac.uk/policies-procedures/dignity-work-policy. Any complaints made about harassment, bullying or other inappropriate behaviour will be investigated thoroughly and without delay, according to the approved procedures. The Department has appointed three advisors who are available for guidance and support, please see below:

Mrs Catherine Butler, room 127, cek31@cam.ac.uk / Mr Del Hawtin, room 124, dlh34@cam.ac.uk / Ms Angie Claxton, room 124, als89@cam.ac.uk

Part II or Postgraduate students - contact Dr Nik Cunniffe, njc1001@cam.ac.uk

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8.3 Student Complaint Procedure

The Office of Student Conduct, Complaints and Appeals (OSCCA) (https://www.studentcomplaints.admin.cam.ac.uk/) deals with student complaints centrally in the University.

The University has a Student Complaint Procedure and details can be found at https://www.studentcomplaints.admin.cam.ac.uk/student-complaints.

The Responsible Officer for the Department of Plant Sciences is Dr Nik Cunniffe, njc1001@cam.ac.uk

8.4 Environmental Sustainability

The University of Cambridge has an Environmental Sustainability Vision, Policy and Strategy setting out the University's commitment to achieving outstanding environmental sustainability performance. Every member of the University, staff and student, is asked to play their role in helping to achieve this vision. The following tips give some suggestions for how you can help.

General tips

- **Waste and recycling** – most of our rubbish can be recycled. Polystyrene is the key exception but we are working on this. Look out for posters on or near to bins for guidance.
- **Travel** – walk, cycle, or take the University-subsidised Universal bus to get around the city.
- **Food and drink** – get a KeepCup and try the more sustainable options in University cafés.
- **Energy** – dress appropriately for the season and switch off lights and equipment when not in use.
- **Water** – don't leave taps running, and report any dripping taps.
- **Get more involved** – become a sustainability leader and help take things to the next level.

Energy

- *The University spends £16 million on energy each year.*
- The University has adopted a Science Based Target to reduce its energy-related (scope 1 and 2) carbon emissions to absolute zero by 2048.
- We can all contribute to meeting this target through some simple steps – such as switching off lights and equipment when they are not being used. *A single light left on overnight over a year accounts for as much greenhouse gas as a car driving from Cambridge to Paris.*
- Where possible, use the stairs rather than the lift.

Food and drink

- You can buy a KeepCup in most of the University cafés. They reduce use of disposable cups, and give you a saving each time you buy a hot drink.

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- University cafés have a range of sustainable options (why not try the vegan option? Did you know the biggest impact individuals can make around food is reducing meat and dairy intake).
- All of the University cafés' disposable packaging (Vegware), as well as any food waste, can be recycled in food waste bins.

Waste and recycling

- *The University's waste from a single year weighs as much as the London Eye.*
- The University has targets to:
    - Recycle at least 95% of its total waste by 2016.
    - Send no non-hazardous waste to landfill by 2020.
- There are separate recycling facilities for:
    - Food waste
    - Glass
    - Mixed recycling (paper, cardboard, plastic bottles, plastic containers, cartons, plastic wrapping, cans and tins)
    - Batteries
    - Printer cartridges
- Look for the posters on or near the bins which say what should be placed in each. If bins do not have posters, please let your Facilities staff know.
- There are recycling points located at the rear of the building
- If you are unsure of which bin to use, please ask Marcus Jarman, Principal Technician (mgj11@cam.ac.uk)
- *Reducing* and *reusing* allows us to decrease the amount of waste that will need to be recycled.
- Reduce:
    - print double sided, and only print where needed
    - share equipment wherever possible
- Reuse:
    - avoid disposable cups by using a KeepCup, mug or refillable bottle
    - donate unwanted books and other items to charity (some Colleges participate in the British Heart Foundation 'Pack for Good' campaign, where you can donate unwanted items to BHF. Ask in your College where you can find your nearest collection point).
- Most things can be recycled but key exceptions are paper towels/tissue paper and polystyrene (they need to go in the general waste bin NOT recycling).
- Most plastics can be recycled so if in doubt, put plastics in the recycling bin.

Water

- *The University spends £0.7 million per year on water.*
- The University is committed to a 20% reduction in water use by 2020.
- Cambridge is in one of the driest areas of the country so saving water is particularly important here.
- Help save water by not leaving taps running.
- If you see a leak or a drip, report it to facilities@plantsci.cam.ac.uk

Get more involved

- Keep up-to-date with news and opportunities by subscribing to the Greenlines newsletter.

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- Visit the Environment and Energy Section's student webpage to find out more about projects including Green Impact and the Living Laboratory for Sustainability.
- Email environment@admin.cam.ac.uk with any questions or to find out more about any particular opportunity.
- Opportunities include paid internships, support running your own environmental project, and Institute of Environmental Management and Assessment (IEMA) accredited auditor training and experience through Green Impact.

https://www.environment.admin.cam.ac.uk/cambridge-green-challenge

Email: environment@admin.cam.ac.uk
Twitter: @CambridgeSust
Facebook: /CUenvironment

9 THE POSTGRADUATE STUDENT TRAINING PROGRAMMES / POSTGRADUATE SCHOOL OF LIFE SCIENCES

The Department is committed to training Postgraduate Students to the highest standards. Much training, for instance in laboratory techniques, will take place in the Research Group but the Department, any affiliated Doctoral Training Programme (DTP) and the University also provide organised training events. The programme of centralised training courses is summarised below. You will see that much of the programme is compulsory and this reflects the Department's determination to ensure the highest standards in training for its postgraduates. Other events will be put on from time to time to meet newly identified needs or to draw people's attention to particular issues. Appendix I is a copy of the Joint Statement of the Research Councils' skills training requirements. Training and services run outside of the School (including Careers Service) can be accessed through the "Skills Portal" at https://www.transkills.admin.cam.ac.uk/skills-portal

9.1 The Plant Sciences Training Programme

9.1.1 Health & Safety

All new Postgraduate Students will be asked to complete a pre-employment health screening form. You will find a copy of this form in the Health & Safety Handbook. The first page should be completed by your Supervisor whom you should ask for guidance as to what hazards you may be exposed to during your time in the Department and the completed form should be sent to the Occupational Health Department at Fenners.

The Department takes safety training particularly seriously. No student will be permitted to do any fieldwork or practical work until all the appropriate safety courses have been completed.

- University Safety Training – safety session provided by the University Safety Adviser's Office. **This is mandatory for all students.** A chemical/laboratory safety session is also provided and mandatory for students who work in labs. Optional research appropriate sessions are also available: https://www.safety.admin.cam.ac.uk/training/graduate-safety-course

- Departmental Safety Induction – provided in the Department which explains how Health and Safety Management is operated in the Department. The departmental

induction is held on the first Thursday of Michaelmas Term and Easter Term. **Attendance is mandatory for all students.**

- For those starting in Lent Term or Easter Term, additional sessions are provided through the year and students must attend as soon as possible.

9.1.2 Postgraduate Training

- **Getting Started with Researcher Development Training**

  Researcher Development, at its heart, encompasses all the learning and development that you experience and acquire during your time in Cambridge. It provides you with the skills you need right now for your current work, as well as for your future, whatever that might look like

  To help you navigate your way through all the Researcher Development training opportunities available at Cambridge, Researcher Development have designed a "Getting Started"" module, which can be found on the Researcher Development website (www.rdp.cam.ac.uk). You will asked to take the skills analysis survey, which will allow you to design a personalised researcher development plan for your first year. To provide further support, if you need it, the Researcher Development team have recommended a number of modules that will help you to develop foundation skills in Researcher Development over the course of your first year, which can also be found in the "Getting Started" module.

- **Doctoral Training Programme (DTP) Courses**

  Some of you will be directly affiliated to UKRI-level postgraduate DTPs, such as that managed for NERC (C-CLEAR) or under the BBSRC aegis as the School of Biological Sciences (SBS DTP). Each of these programmes provides detailed training in research skills and communication, and some elements are open to those of you within the Department not affiliated with at DTP. Please consult with the Postgraduate Student Administrator for additional details.

- In conjunction with your Supervisor, you are required to fill out the form in your Personal Progress/Development Log with the Departmental and Faculty Postgraduate Education Committee courses which you will undertake.

  Below is a list of courses and other lectures that Plant Sciences postgraduate students are recommended to attend;

  - Lab Book – the Postgraduate School of Life Sciences runs the "How to Keep a Lab Notebook" course usually in early November. For the academic year 2020-21 the talk will be recorded and made available to view via Moodle. Details are to be confirmed.

  - Scientific writing – part of Researcher Development training.

  - Project management – this course is available online and strongly advised for all students, and in particular for second year students.

- How to Make a Poster – this is a course provided by RDP and can be accessed through the links on the website. The course is recommended for second year students.

- Additional lectures. Postgraduate Students may attend any Plant Sciences Part II, IB or IA lectures they feel might be of use or interest to them. All lectures are listed online. Some students might also be asked to attend specific lecture courses in other Departments where the Supervisor thinks it appropriate. Where this is the case, attendance is compulsory.

- Departmental Research Seminars in Plant Sciences. These take place in term time on Thursdays from 1pm – 2pm. A wide range of topics is presented every year and **attendance is mandatory for all Postgraduate Students** and all Postgraduate Students will be asked to present a seminar during their time in the Department.

- Specialist lectures and seminars. These are available throughout the University. The Cambridge University Reporter and Notice Boards carry details of these lectures. Details can also be found on the Department's website.

- Departmental Research Day. Each year, usually in December, a research colloquium with contributions from Group Leaders and affiliated researchers is organised by the Department. In a year when direct meetings are permissible, this provides a forum for third year postgraduates to present posters describing their work, as well as break out sessions for interdisciplinary discussions on key areas of research interest.

9.1.3 Communication and Additional Skills

- Research Laboratory meetings – combine technical information with the need to present your own data in a professional way on a regular basis. **Attendance is compulsory.**

- Postgraduate Students can also attend specialist computing courses advertised on the University Information Services Training website.

- There are also options available from RDP to help with presentation and communication skills.

9.1.4 Plant Sciences Library

In Michaelmas Term 2020, the Plant Sciences Library will be offering limited services due to COVID-19 restrictions. Many resources are available online, so you should still be able to access everything you need. You can always email the Library at plant@lib.cam.ac.uk with any questions. The Librarian is Alina Wanitzek (providing maternity cover for the post until February 2021).

Your main source for finding Library materials is the online catalogue iDiscover. Make sure to have a look at (and bookmark) the Plant Sciences LibGuide, which gives you information on subject-specific resources and research support. You can also check out the University Library's page on e-resources.

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Access to the Library will be available via the online booking system LibCal, this will be explained in more detail during the Library introduction session. The number of seats in the Library has been reduced to allow for social distancing – we ask you not to move or add any chairs in order to keep everyone as safe as possible.

Browsing and borrowing books is permitted, however for safety reasons all desktop computers, excluding the legal deposit terminal, have been removed.

Aside from the Department Library, the University Library (UL) is offering zero contact services to all members of Cambridge University. This includes:

- Click & Collect – request books from the UL's borrowable collections and pick them up from the UL entrance hall.
- Scan & Deliver – have up to one chapter or article scanned for you from the UL's print collections (subject to copyright rules).

- Ask a Curator – discuss questions with a specialist, who can also consult special collections material for you.

- Book a Visit – you can book a seat in the UL's reading rooms to consult non-borrowable materials.

You will attend a Library induction/welcome session in your first week of term. Further sessions on study and research skills will take place throughout Michaelmas Term. Do also check with your College Library to see what they have on offer, and don't hesitate to get in touch if you want to know more or just have a chat. The Plant Sciences Library is on Twitter too: @CamPlantSciLib – come and say hello!

9.1.5 Technical Matters

Several courses are available to teach specific lab skills including:

- Instrumentation use – attendance at the 12 lectures/demonstrations run by the Cambridge Centre for Molecular Recognition. Compulsory for all students identified by their Supervisor.

- Analytical Microscopy. The Department has some facilities for light microscopy. More advanced instrumentation and training for electron microscopy and confocal light microscopy are available in the Multi-Imaging Centre, Department of Anatomy.

- Sequencing and database use – attendance at the training courses offered by the Council of the School of Biological Sciences Computer Teaching Facility. Compulsory for students identified by their Supervisor.

9.1.6 Small-Group Teaching (supervisions) and Practical Class Demonstrating Opportunities

Supervisions: As noted below, the development of teaching skills is also a key component of postgraduate studies and contributor to career progression. The University places great importance on the characteristic small-group tutorial sessions ("supervisions") which are normally provided by through individual Colleges.

However, for some courses of first year lectures (IA) or second year lectures (IB) the Department of Plant Sciences co-ordinates supervision provision so as to maximise the engagement with interested and authoritative supervisors. Training is provided at both Departmental and School level, although the commitment of time should be noted (you should attend all associated lectures in the first year), and be prepared to develop additional resources relevant to those lectures. You must discuss these issues with your Supervisor(s) before offering to undertake any supervisions. Payments are made for each supervision group through the respective College, and you will also have to complete termly reports on each undergraduate.

Practical Class Demonstrating: In an ordinary year, many undergraduate classes are repeated to allow large groups to experience hands-on practical techniques. This year, there may be some opportunities to engage in demonstrating activities. Information about opportunities to demonstrate for IA and IB practicals is circulated by the Department Teaching Administrator, and it is advisable that you undertake no more than one Demonstrating session per week (this can extend from 12 noon – 5.30 pm) for a short period each term. Again, you should discuss the applicability and appropriateness with your Supervisor(s), who may ask you directly to help out in a practical class they are organising. Payment is made by the Department on an hourly basis for demonstrating, and also an allowance for marking of completed practical write-ups.

10 FINANCIAL SUPPORT TO ATTEND CONFERENCES AND MEETINGS

Attending conferences is an important opportunity to test your ideas, communication skills and start networking. Traditionally, we have encouraged that all students should attend at least one international conference during their time here.

The Research Councils provide funding for all of their postgraduate students to attend scientific meetings (Research Training Support Grant). The amount available depends on the Research Council. This money is transferred directly to each Research Group so if you have a Research Council studentship and wish to attend a conference, you should discuss this with your Supervisor. If you wish to attend an identified conference in some future year, arrangements will have to be made with the Office to set up an account in which the travel grant can be kept. The Department will not provide any additional support.

Joining the Cambridge Philosophical Society may help you financially. Members can apply for travel grants and research studentships. You must be a member for a year before applying for funds. For full details visit the Cambridge Philosophical Society website.

Students who are funded by other organisations are advised to consult with their Supervisor and College as to possible sources of funding. An early approach is advisable.

11 FIELDWORK FUND

The purpose of this fund is to support PhD students on field trips, wherein they are not residing in Cambridge, for a minimum of 8 weeks duration [NB: This 8 week period is a School requirement]. Fieldwork is defined as a trip primarily for the purpose of collecting observational/experimental data outside of a laboratory, library, or office setting. For the coming year, fieldwork may continue to be disrupted by the Covid-19 pandemic, and those considering a placement will need to recognise the additional health and safety implications

for any trip away to Cambridge, for travel to and from that location, and for distancing upon arrival or return.

Application deadlines are normally 10 days before Michaelmas Term and Lent Term meetings of the PGEC, and appropriate procedures to apply for Leave to Work Away should also be submitted via CamSIS. Applications for the purposes of primary data collection that occur in a laboratory, library, or office outside of Cambridge for longer than 8 weeks are invited for the Lent Term round, but external trips will receive first priority.

Application forms can be downloaded from the Department's intranet. Completed application forms should be returned to the Postgraduate Student Administrator.

Safety when undertaking Fieldwork: As noted above, any request to work away must be accompanied by the appropriate Risk Assessment form (note classification of low, standard or elevated risk – see link below) to have been submitted and approved, as well as Insurance for any undertaking. It would normally be expected that your Supervisor would be in attendance for an initial period of fieldwork, or would have ensured that an appropriate local expert would be on hand to ensure a safe period of induction and introduction to fieldwork activities.

https://www.cambridgestudents.cam.ac.uk/your-course/graduate-study/your-student-status/work-away-cambridge

https://www.plantsci.cam.ac.uk/intranet/health-and-safety/risk-assessments/field-trips

12 THE FRANK SMART STUDENTSHIP IN BOTANY

Students entering their second and third year may apply for a Frank Smart Studentship which will be awarded competitively, based on progress made. Applications should be 2 sides of A4 and should clearly set out the aims of the overall PhD project, the achievements to date and plans for the future. It should be accompanied by a short letter of support from the Supervisor(s), Departmental Postgraduate Advisor or PGEC Advisor commenting on progress and sustainability of proposed expenditure. It will be unlikely that everyone who applies will receive an award and the sum awarded to each student will be decided by the Electors. Awards are usually up to £1,000 and will be made annually (if funds permit) and students who receive one in the second year may apply for another in their third year. All second and third year students who receive an award will be entitled to style themselves 'Frank Smart Student'. Applications must be handed in to the Postgraduate Student Administrator by 1st September 2021.

All awards made by the Frank Smart Fund are for support of research activities. The Managers leave to the discretion of each student how the money is spent (e.g. purchasing chemicals or equipment, making field trips, or in exceptional circumstances, attending conferences). Computer equipment is an exception. This may only be purchased if essential for the project and must have the prior approval of the Managers. All applications should have a supporting statement by the Supervisor, and the extent of any matching funds available from Research Group or RTSG resources. The Managers will request a report on all expenditure each year and will ask for receipts in some cases. The sums awarded may be carried forward from year-to-year but all awards will lapse at the end of a student's third year in the Department.

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13 THE MEANS BY WHICH YOUR PROGRESS WILL BE REVIEWED

Your purpose in joining the Department is normally to gain a PhD, but you enter on probation. The Department and you both need to be confident that you are suited for the work involved in a PhD during the probationary period, and hence the "Not-at-first" (NOTAF) registration status. There are a number of activities designed to help progress to be assessed throughout the year, culminating in the First Year Report, to be completed within 9 months of initiating the full PhD or MPhil programme. There is now the widespread recognition that we need to evaluate all aspects of your training and development, so that we provide an appropriate theoretical and practical environment to develop your research training. It is natural that such an evaluation be carried out before you can formally be registered for the PhD degree. Occasionally, if progress has not been adequate, some candidates may be asked to submit their first year work formally as an MPhil.

13.1 Allocation of a Second Supervisor

You may be allocated a Second Supervisor when you are accepted into the Department. This depends on the primary location of your research group, and possibility of shared supervision across individual groups, Departments or institutions (e.g. NIAB). We will ensure that the name of your Second Supervisor is notified to both the Degree Committee and your College Postgraduate Tutor.

13.2 Allocation of a Postgraduate Advisor

The choice of Postgraduate Advisor will be made after consideration of your subject of research, the contents of your application form and your interview. He or she will not be a member of your Research Group but will be familiar with the general aspects of your research work and act as a second point of contact after your Supervisor. The purpose of the Postgraduate Advisor is to provide you with an additional perspective on your work, to offer a view of your work independent of the sometimes intense Student-Supervisor relationship, and to provide a source of back-up support should your Principal Supervisor be absent or unavailable. The Postgraduate Advisor will normally be an Academic Staff Member or an Independent Research Fellow. We will ensure that the name of your Postgraduate Advisor is notified to both the Degree Committee and your College Postgraduate Tutor.

13.3 Allocation of a member of the Postgraduate Education Committee

The Postgraduate Education Committee (PGEC) has the responsibility of overseeing the general progress of Students and for monitoring their progress during the MPhil or PhD programme. You will be assigned a member of the Committee who, together with your Supervisor(s) and Postgraduate Advisor, will be there to help you during your time in the Department.

13.4 Personal Progress/Development Log

The Personal Progress/Development Log is the formal record which allows your progress to be recorded via formal training courses offered within the Department or by the Postgraduate School of Life Sciences (PGSLS). The Department provides a structure to your time in Cambridge which should contribute to your academic development, the development of transferable skills and the strengthening of your links with scientists outside

your own Research Group. The form can be downloaded from your PGSLS Student Moodle site at https://www.postgradschl.lifesci.cam.ac.uk/

13.5 Preparation of the Project Proposal

Once you have arrived in the Department and begun to settle into your Research Group one of the first activities you must undertake is the preparation of your Project Proposal. The purpose of this Project Proposal is to accustom you to academic writing, and to provide an important opportunity to clarify your research project and the techniques to be used.

The content of your Project Proposal should be discussed with your Supervisor(s) and Postgraduate Advisor. No more than four weeks should be spent on writing it; after this you must begin experimental work/data analysis/modelling. The length of the Proposal should be no more than 6 sides of A4 and should have an abstract of less than half a page. At this stage you should also prepare your risk assessments for experiments or field activities in conjunction with your Supervisor and research group technical support.

The Proposal should be submitted to the Chair of the Postgraduate Education Committee via the Postgraduate Student Administrator by **9th November 2020** (for Michaelmas Term 2020 starters), **22nd February 2021** (for Lent Term 2021 starters) and **31st May 2021** (for Easter Term 2021 starters) and be signed by the Student, Supervisor(s) and Postgraduate Advisor. The PGEC will receive Project Proposals submitted through the BBSRC DTP Programme.

The report will be assessed by your PGEC Advisor and you will receive feedback on its quality, and the focus of your project. Your Supervisor(s) and Postgraduate Advisor will also be informed. **It is essential that you address the issues raised in this feedback.** Too often we see the same mistakes repeated in the First Year Report. Make corrections and have them checked by your Supervisor(s).

13.6 Supervisor's Termly Assessments

After the end of each term, the PGEC will ask for a brief report on your progress from your Supervisor. This report is logged on Cambridge Postgraduate Supervision Reporting System (CGSRS) and will be visible to you on your CamSIS Self-Service site.

13.7 First Year Seminar

The First Year Seminar is a good opportunity for you to present an outline of your research project. You should have a firm summary of your research programme with an emphasis on the background to your project and details of the techniques you intend using in your research. The First Year Seminars are scheduled to take place over one or two days in early Easter Term for Michaelmas Term starters. Lent and Easter Term starters will present in the Michaelmas Term. You will be expected to speak for 20 minutes followed by 5 minutes for questions and discussion. The First Year Seminar should be prepared in consultation with both your Supervisor(s) and Postgraduate Advisor and should provide you with critically constructive feedback on your research work in preparation for your First Year Report. Feedback is collected from the speaker's Supervisor(s), Postgraduate Advisor and PGEC Advisor. Feedback will be returned to the Student, Supervisor(s), Postgraduate Advisor and PGEC Advisor. The overall outcome is discussed and commendations made at the next PGEC meeting.

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For further information see *16.4 Appendix IV: Advice on preparing your First Year, Second Year and Third Year Seminars*

Attendance at First Year Seminars is mandatory for all Postgraduate Students.

13.8 First Year Report

The First Year Report is the Department's formal means of assessing your progress and deciding whether you should carry on for a PhD degree. It is an opportunity for an extended piece of writing and a discussion about, and a defence of, your work to date and a detailed plan for future research within your funding period. It also emphasises just how much experimental work and reading are required to produce even a modest thesis. The report must be submitted by the start of June (for Michaelmas Term starters), October (for Lent Term starters) and January (for Easter Term starters). A viva will be held by the Postgraduate Advisor and the responsible PGEC Advisor. A written report will be submitted to the PGEC Chair which will make specific recommendations regarding continuation and registration for the PhD.

Appendix II provides detailed advice about how to prepare the Report. A session offering guidance and advice on how to prepare for your First Year Report will also be given by the PGEC Chair. Appendix VIII lists the relevant dates. A training session is also run by the Postgraduate School of Life Sciences; https://www.rdp.cam.ac.uk/research-student-courses/writing-your-first-year-report

Most students pass this hurdle. It is designed primarily to ensure that no-one who is unsuitable for postgraduate study wastes any more of their time and Departmental resources on a course of study. If your First Year Report is considered to be unsatisfactory, you may be asked to re-submit a revised report before the end of the fourth term. Alternatively, you will not be registered for the PhD programme, in which case the work you have done may be considered either for an MPhil, a Certificate in Postgraduate Studies or a Certificate of Diligent Study.

For further information see *16.2 Appendix II: Advice on the preparation of your First Year Report*

13.9 Second Year Lab Meeting Presentation

In your second year, you should organise to give a full presentation of your progress so far in the format of an invited seminar (approximately 40 minutes) to your Research Group/Lab meeting and invite your Postgraduate Advisor and/or PGEC Advisor to attend. You should reflect on whether things are going to plan, discuss any difficulties that you have encountered or anticipate, and highlight successes. After the presentation, you should organise a meeting with your Postgraduate Advisor and/or PGEC Advisor so that they can give you feedback and advice on the project progress. In addition, you should send a brief summary/report to the Postgraduate Student Administrator for consideration at the next PGEC meeting.

The exact timing of this presentation will depend on individual students and organisation of their group's lab meetings, but should aim to be completed within 24 months of the start of your project. You should inform the Postgraduate Student Administrator of the date.

For further information see *16.4 Appendix IV: Advice on preparing your First Year, Second Year and Third Year Seminars*

13.10 Third Year Poster

A poster presentation is one of the standard ways of communicating scientific information in a public forum. Here the objective is for you to be able to inform the whole Department (or delegates at a conference) about your work to date; it should contain a substantial amount of data from your first two years. The poster session will also allow you to explain the research in person and to receive useful comments and suggestions. It also allows you to demonstrate your presentation and poster preparation skills. The poster session for students about to enter their third year is scheduled to take place as part of the Departmental Research Day each year in early December. Your Supervisor(s), as well as Postgraduate Advisor and PGEC Advisor, will assess the posters and provide written feedback. Nominations for commendation are made at the next PGEC meeting. Arrangements for poster preparation and presentation will need to be modified for the current year (2020-21).

For further information see *16.3 Appendix III: Advice on preparing your Third Year Poster*

13.11 Third Year Plan

The purpose is to help you clarify your plans for your final year of research and writing up. The Postgraduate Student Administrator will send you a record sheet at the start of your third year on which your plan should be drawn up. You should discuss your plan with your Supervisor(s) and Postgraduate Advisor, who will provide a brief comment on the document and it will then be passed to your PGEC Advisor for consideration and comment. Copies of the finished sheet with any comments will be returned to you, your Supervisor(s) and Postgraduate Advisor.

BBSRC DTP students should submit their Third Year Plan in line with all other Michaelmas Term starters. This is to help with reviewing progression in line with the four year submission deadline of the programme.

13.12 Third Year Seminar

The Third Year Seminar is an important opportunity for you to defend your work in a professional context and to demonstrate your presentation skills. Seminars are to be held as part of your group/lab meeting, and the exact timing of the presentation will depend on individual students and organisation of your group's lab meetings but should be completed by the end of the third year. Also the third year seminar should follow the format of an official invited seminar (approximately 40 minutes). They provide you with an opportunity to explain how you have advanced scientific knowledge and understanding in your area. Students are expected to give these formal seminars in the presence of their Supervisor(s) and Postgraduate Advisor, who will provide a formal report/assessment. Students should also invite their PGEC Advisor to attend. The Postgraduate Student Administrator should be informed of the date. Feedback will be returned to you, your Supervisor(s), Postgraduate Advisor and PGEC Advisor. This completes the formal component of your training in public speaking, which we hope will launch you into a career with many more such opportunities.

For further information see *16.4 Appendix IV: Advice on preparing your First Year, Second Year and Third Year Seminars*

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13.13 Fourth Year Plan

The purpose is to help Students clarify their plans for their fourth year. The Postgraduate Student Administrator will send a record sheet at the start of the fourth year on which the plan should be drawn up. Students should discuss their plan with their Supervisor(s) and Postgraduate Advisor, who will provide a brief comment on the document and it will then be passed to your PGEC Advisor for consideration and comment. Copies of the finished sheet with any comments will be returned to you, your Supervisor(s) and Postgraduate Advisor.

BBSRC DTP students should submit their Fourth Year Plan in line with all other Michaelmas Term starters. This is to help with reviewing progression in line with the four year submission deadline of the programme.

A further progress check and review of your thesis plan and outline will take place six months in advance of the due submission date.

13.14 Departmental Research Day

This is an opportunity to hear presentations on selected research from each of the Groups in the Department and hence a good way to keep abreast of other activities. Talks are given by members of staff or Postdoctoral Researchers, with poster sessions for third year postgraduates and other informal breakout discussion sessions. The Departmental Research Day takes place early in December each year. ***Attendance is mandatory for all Postgraduate Students.***

13.15 Summary of Postgraduate Student Activities

A Summary of Postgraduate Student Activities can be found in *16.7 Appendix VII: Summary of Postgraduate Student Activities*.

13.16 Timetable for Postgraduate Student Activities in Academic Year 2020-2021

The Timetable for Postgraduate Student activities in the academic year 2020-2021 can be found in *16.8 Appendix VIII: Timetable for Postgraduate Student Activities in Academic Year 2020/2021*.

14 TEACHING

Postgraduates play an essential role in our undergraduate teaching programme. Please check with your Supervisor before volunteering. Training courses to help you become an effective supervisor are available. See comments above on the commitment required to undertake supervising and practical class demonstrating.

15 A FINAL WORD

The Department wants you to enjoy the experience of being an associate as a Postgraduate Student. Everyone hopes you will find it a rewarding experience and one that will set you on the road to a productive scientific career. All members of the Department will help you if they can but, in the final analysis, it is your efforts that count. Good Luck!

October 2020

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APPENDICES

16.1 Appendix I: Statement of Expectations for Postgraduate Training

https://www.ukri.org/files/legacy/skills/statementofexpectation-revisedseptember2016v2-pdf/

Statement of Expectations for Postgraduate Training

The ambitions of the Research Councils' and the other funders[1] who endorse this 'Statement of Expectations for Postgraduate Training' are to continue to develop highly skilled researchers to achieve impact across the whole economy, as well as developing the next generation of researchers to maintain national capability. PhD training is supported through a number of mechanisms; however the principles set out below apply to all students irrespective of mechanism.

Expectations on Research Organisations

- Research Organisations should undertake open, merit-based and transparent recruitment of students, selecting candidate(s) regardless of background or any protected characteristic as defined by the Equality Act (2010).
- Research Organisations should implement a training strategy which is in line with the Organisation's research strategy and in synergy with the funders' strategic objectives.
- The emphasis should be on enhancing the excellence and quality of doctoral training (rather than maximising student numbers).
- A robust process should be in place to attract and recruit outstanding quality applicants.
- Collaboration with Business, Government and Third Sector Organizations should be strongly encouraged, where appropriate.
- Research Organisations should report as required[2]:
  - For Research Council-funded studentships, this will be by providing information on students (including diversity monitoring data) and their training programmes through the Je-S Student Details for inclusion in the Research Council's Management Information Systems.
  - For other endorsing funders' studentships, reporting should be carried out as instructed in grant terms and conditions.
- Students should be aware of which funding body that supports them, and be familiar with that organisation's strategic objectives. Funder support should be acknowledged on any publications or any other form of dissemination arising from their PhD.

Expectations of the Training Environment

- Research Organisations are expected to provide excellent standards of supervision, management and mentoring[3]. Supervisors should receive the support and training that they individually need to provide the highest-quality supervisory support to their students, and be aware of their responsibilities

[1] The Wellcome Trust, Cancer Research UK, British Heart Foundation
[2] Additional reporting may be required for particular schemes; any such bespoke reporting will be described in detail in correspondence between the Research Organisation and the relevant funder.
[3] Research Organisations should adopt the principles, standards and good practice for management of research staff as set out in the Concordat to Support the Career Development of Researchers. The Research Organisation is responsible for implementing the requirements of the QAA Code of Practice for the Assurance of Academic Quality and Standards.

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under the Equality Act (2010) to treat all students in a fair, open and non-discriminatory manner.

- Career advice should be provided (both prior to embarking on a PhD and ongoing) to enable students to choose the most appropriate type of PhD and have the confidence and skills to explore the impact they can have in a wide range of relevant sectors and so manage their careers.
- Students enter doctoral programmes with a diverse range of skills and experience. Research Organisations should have mechanisms in place to assess and monitor individual student needs and put in place appropriate development opportunities. The provision of training should be kept as flexible as possible allowing customisation to suit the individual needs of students (and the research area).
- Students should receive in-depth advanced training, as well as developing a broad understanding of their subject area. They should also develop an understanding of how their research fits into the broader "research and innovation system" and of practicable routes to maximising economic, social and/or health impact.
- Funders who endorse this Statement expect the provision of transferable skills to form a fundamental part of doctoral training[4].
- Students should receive training in the principles of good research conduct in their discipline, and understand how to comply with relevant ethical, legal and professional frameworks[5]. Students should be provided with training to identify and challenge unintentional bias as appropriate to their studies.
- Students should receive training in experimental design and statistics appropriate to their disciplines and in the importance of ensuring research results are robust and reproducible.
- Students should, wherever possible, benefit from the advantages of being developed as part of a broader peer group (e.g. through cohort approaches and Graduate schools).
- Students should be encouraged to consider the wider context of their research area, particularly in reference to societal and ethical issues, and the importance of engaging the public with research. Learning and training opportunities should be provided to help develop their public engagement skills[6].
- Research organisations are expected to provide an environment where research students have the opportunity to widen their horizons as part of their training. Experiences outside the "home" Research Organisation, for example with other academic collaborators, in non-academic environments or overseas are encouraged where it fits with the individual and scope of the project. These should be well planned to ensure the student gains maximum benefit.
- Supervisors should recognise doctoral study as a wider training opportunity and encourage and support students in developing their careers.

[4] Research Organisations should use the Researcher Development Statement to underpin their professional development programmes for students.

[5] For further information regarding the expectations on Research Organisations, see The Concordat to Support Research Integrity (http://www.universitiesuk.ac.uk/Publications/Documents/TheConcordatToSupportResearchIntegrity.pdf) and the RCUK Policy and Code of Conduct on the Governance of Good Research Conduct (http://www.rcuk.ac.uk/Publications/researchers/Pages.grc.aspx)

[6] Further information, guidance and advice on public engagement with research can be found on the following websites: National Coordinating Centre for Public Engagement (https://www.publicengagement.ac.uk/) and RCUK Public Engagement with Research (http://www.rcuk.ac.uk/pe/public-engagement-with-research-strategy/)

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Expectations of the Students

- Students should be actively involved in managing and directing their research project and training, taking advice from their supervisor.
- Students will be expected to develop the higher-level capabilities as outlined in the Researcher Development Statement[7].
- Where students get the opportunity to work in a non-academic environment, they should maximise the opportunity by seeking to understand the role of research within the organisation and the wider context.
- Students are expected to participate in training and networking opportunities provided by the funding body.
- Students should complete all information/reporting requests from the funding provider and ensure contact details are maintained.

Expectations of Collaborators

- The collaborating organisation and academic partner should undertake to develop a research project of the same difficulty and challenge to a conventional PhD programme.
- The partners should maximise the quality of the training experience for the student by recognising the broader training and development opportunities which are available through working in academic and non-academic environments.
- Collaborators are encouraged to promote their involvement with both the Research Organisation and funding body, both internally and externally.
- Research Councils expect the Research Organisation and collaborating organisation to have an agreement in place before the project begins, which recognises the student's contribution, to make sure that the IP arising from the research / training can be managed effectively.

Funders will

- Harmonise terms, conditions and guidance around postgraduate training, where practical, whilst recognising there may be valid subject specific or funder-specific reasons for different approaches in some instances.
- Discuss and evaluate recruitment strategy and processes, and postgraduate training approaches at Departmental (or equivalent) and Institutional level on visits and through formal assurance mechanisms, as required.

[7] See www.vitae.ac.uk for more details.

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16.2 Appendix II: Advice on the preparation of your First Year Report

The report should be no more than 9,000 words long and should be a single coherent document and in a form understandable to a plant scientist outside your speciality. The report should be double spaced in a standard font, size 11. You should discuss the report in detail with your Supervisor who will be able to show you good examples from previous students. Your report should state your hypothesis and cover the work that you have done so far. It should certainly include the planned work that you have yet to do to answer the questions you have set yourself, with an indication of a timeline. You need to demonstrate in your report that you can work at the level required for a successful and timely submission of a PhD thesis. The assessors will be looking at your results, how you analyse your data and establish and test hypotheses. The structure of your report should be clear and it should be written concisely and succinctly. There is no virtue in padding out a well-argued case. You should spend between 2 and 4 weeks preparing the document.

Your report must be written and presented in the style of an appropriate academic journal. Begin with an abstract or summary of the overall aims of the project, and the progress to date. The introduction should then introduce the background to your project, including brief summary of the literature. Then state your hypothesis, specific aims, establishing their importance and placing your approaches in the context of published work and defining your programme for achieving your aim. You should aim to demonstrate your knowledge of current literature in supporting your hypothesis, but also evaluate it critically and synthesise your own views from it.

Follow the introduction with a concise description of the methods used. This should be sufficiently informative to allow the work to be repeated in your absence. Use prose suitable for a journal, not a lab protocol. Next present your results; do so as a coherent narrative. Give the aim of each experiment, say roughly what you did, present your results, draw attention to the important features of the results and lead logically to the aim of the next experiment. The results section should not be just a collection of figures and tables.

Figures and tables should be set out properly, and it may help to refer to the style in a journal (more details are given in the online guide to writing a thesis). Use an informative title that shows the aim of the experiment and add a preamble that explains what you did. Figures and tables should be intelligible without immediate reference to the text.

The discussion (it should not simply be a repetition of the results) should evaluate the reliability of your data, establish what it demonstrates, relate your work to that of others and arrive at a conclusion.

The final section of the report should consist of a two to three page plan for the thesis progression and probable chapter outlines. Include a timeline or Gantt chart to show how the research and thesis preparation are within the funded period for your postgraduate award.

Your report must be handed in by **1st June 2021** for Michaelmas Term 2020 starters, **1st October 2021** for Lent Term 2021 starters, and **7th January 2022** for Easter Term 2020 starters. The Postgraduate Student Administrator will write to you and your supervisory team about a month before the deadline to remind you that the report is due. You should provide 2 printed copies by the due date to the Graduate Student Administrator, together with 2 printed copies of your Personal Progress/Development Log book. You will have a viva voce examination with your Graduate Advisor and PGEC Advisor, usually within a month of the

submission date. Your Postgraduate Advisor will contact you to arrange this. They will produce independent reports on the report you have written, plus a joint report on the viva. Please ensure that you take along your Laboratory Notebook and a copy of your First Year Report to the viva. The Examiners' reports will be submitted to the Chair of the Postgraduate Education Committee, who will then notify you and your Supervisor of the result. If successful, the Department will then be able to inform the Board of Postgraduate Studies that you have passed your probation and you will be registered for a PhD.

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16.3 Appendix III: Advice on preparing your Third Year Poster

Part of the Departmental Research Day in December will be set aside for the poster display and poster session. You should plan your poster for this date and work with your Supervisor to produce the best poster possible. You should spend a maximum of 2 weeks on your preparation. The Postgraduate Student Administrator will write to remind you of the date about a month before the session.

The Department will provide display boards and will locate them at Research Day. It is normal to produce an A0 (80 x 114cm) poster, printed and possibly laminated. You will attend the poster session, where you will be able to explain and defend your poster. Your Supervisor(s), Postgraduate Advisor and PGEC Advisor will assess your poster and provide some written feedback. Feedback will be returned to you and your Supervisor(s), Postgraduate and PGEC Advisors. Commendations will be made at the next PGEC meeting.

Preparing a poster is very different from the continuous prose of your thesis and the verbal presentation of a seminar. A good poster should be legible, well organised and to the point. Studies have shown that you have only 11 seconds to attach and retain your audience's attention so your title must be prominent and brief. Many of your audience will absorb only the title so you need to be clear about the message you wish to convey.

You should focus on the hypothesis you are testing and your most important findings. Make a small scale sketch of your poster on an A4 piece of white paper. Emphasise the points you want to stress in your poster. Think in terms of headlines, text, charts, graphs, illustrations, photographs, etc. Incorporate these ideas into your sketch. Once you are satisfied with your initial plan make a rough layout on a white board or in PowerPoint.

Research shows that many people approach visual information in a spatial sequence of *centre – top – bottom – left – right*. On that principle your title should go centre top in large letters. Title, authors and sponsoring institution can extend across the width of the poster. After that the text and diagrams etc. should be set up in two wide columns. The use of space is important and you should ensure plenty of clear space on your poster.

Do not try to crowd too much information on to your poster. Concentrate on two or three main points and highlight trends and comparisons with simplified charts and diagrams. Make key points in the legend of the figure or table. Use text cautiously – bullet points often work better than full sentences. Avoid abbreviations and acronyms if possible and try not to overwhelm your audience with too many numbers, words or complicated graphs. If you find you have too much on your poster, the materials and methods section can either be reduced to a smaller print size or you can prepare a separate methods sheet to hand to those who are really interested in your work. A lot of people will either read or study your poster whilst you are away so your message must be clear and simple. Put in a concise conclusions section.

Using PowerPoint and colour laser printing it is possible to produce a very sophisticated poster. Most groups use Biochemistry (Photographic and Printing facility, tel. 33606) or the PANDIS unit on the New Museums site, who produce posters from information you provide electronically.

Discuss the format with your Supervisor and look at examples around the Department.

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All lettering must be easily read from about 2m. Use a bold or semi bold typeface for headings and labels. Text should also be bold or semi bold. Avoid type with thin strokes as this can reduce readability. A sans serif font is more easily seen at a distance. Text in normal upper and lower case is much more readable than capitals only.

The use of capitals in titles, headings and labels is acceptable.

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16.4 Appendix IV: Advice on preparing your First Year, Second Year and Third Year Seminars

n.b. These notes were drafted for presentations to an audience in person; please note that the general rules still apply when using a remote platform (Teams, Zoom, Whereby), for which many of you will by now be familiar.

Some people have no problem speaking in public; others find it a nerve-wracking experience. The secret to success is preparation, presentation and practice. You only have a limited time to convince what may be a sceptical, and sometimes disinterested, audience that your research work is the best thing since sliced bread. Use your time wisely.

As a general rule, have one PowerPoint slide for each minute of your presentation. Remember that your audience can see and hear at the same time, so do not put up a slide and then read what is on the screen. Illustrative material should be used to complement what you are saying. You might find it useful to use your slides as prompts in case you lose your way. We all make the mistake of putting too much information on to a slide or overhead. Detailed experimental results and long columns of numbers should be avoided. Try and summarise your results by means of simple graphs and illustrations. There should be no more than 8 lines of text on a slide. When you have prepared your slides, check the background contrast and that they can be read from the back of the room in which you will be speaking.

Make sure you have good lecture notes written large enough so you can read them in poor lighting. Use your notes as a guide to what you are going to say, do not read verbatim from your notes. Your notes could include stage prompts for changing slides and even when you want the lights on or off.

Start your talk with a clear statement of what your seminar is about and have a summary of the main points you are going to consider. Give a brief overview of the general area of your research and then concentrate on the part of your research about which you are rightly proud and enthusiastic. It would be useful to summarise the experimental methods you have used and then give a succinct account of your results. Make sure you discuss the significance of your findings and a brief illustrative summary should accompany this part of your talk. Another slide should be used to set out your conclusions and the way forward with your research. You should finish up by acknowledging the people who have helped you with your work.

When you speak, do not look down at your notes all the time, try and look confidently at the middle region of the audience. Unless you are confident, try not to move around too much. Waving arms can be a distraction as well as providing emphasis. Make sure you know how the audio-visual system works, how the audio system works and how to operate the pointer. Load your presentation onto the laptop provided; do not bring your own.

Above all make sure you practise your talk, first by yourself to make sure you are within the time limit. Then have a repeat performance with your Supervisor or to your research group. If possible, practise in the lecture theatre where you will be giving your talk. Get a friend to come along to make sure you can be heard in the back row and that your slides can be seen clearly. It is discourteous to other speakers and will disrupt the timetable if you speak longer than your allocated time, so you will be stopped by the Chair. When it comes to questions, give brief answers. If you do not know the answer to a question, say so. Finally, speak with confidence and enthusiasm about the good work you have accomplished.

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Seminars will be reviewed by your Supervisor(s), Postgraduate Advisors and PGEC Advisor. Feedback will be provided on your presentation.

Attendance at seminars by Postgraduate Students is compulsory for all other Postgraduate Students! There is nothing more dispiriting than giving a seminar, which you have worked very hard to perfect, to just a handful of listeners. This is your opportunity to support your fellow students, as well as to learn about their research.

16.5 Appendix V: Advice on the preparation of your PhD thesis

Your thesis is likely to be the longest piece of continuous prose you will ever write. It is important for many reasons, but especially because it is a significant part of the means by which you are assessed for your degree. It is also a scientific publication and will be available for consultation in the University Library, and probably, your Supervisor's office. Your thesis is a permanent record of your work at the start of your career.

The Department requires all postgraduate students to have a realistic timetable for completion of data collection to allow time to complete the thesis and submit by the maximum deadline of 48 months after the initial registration for the PhD programme.

A detailed document, providing advice on how to prepare a thesis you can be proud of is given at https://www.plantsci.cam.ac.uk/grads/current/download/thesis-prep-advice.pdf. You will want to consider all aspects of the document – content, style, organisation, paper, printing, binding and, not least, the timetable for preparing it. It is important that the thesis is as good as you can make it, but beware of perfectionism! By the time you complete the thesis you will have been living with it for at least three years and it may be very difficult to recognise when it is finished. Do not let yourself become too attached to the minutiae of writing up, because your thesis must be assessed and you must look for employment.

Full information on the overall processes for the PhD by thesis can be found at https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/writing-submitting-and-examination/phd-msc-mlitt

The Timetable

The University has clear expectations on submission dates. If you are a full-time PhD student you are expected to complete your research for the degree in three years and to submit your thesis for examination within four years. Any date later than that requires permission in advance from the Degree Committee and the Student Registry and you should be aware that extensions are only approved in particular circumstances. It will almost always take you longer than you think to write up, so start early. A possible timetable might be as follows:

Introduction	3 weeks
Methods, results and tables	6 weeks
Discussion, references, etc.	6 weeks
Consultations with Supervisor	3 weeks
Revisions of drafts	2 weeks
Proof reading, corrections, printing	3 weeks
Binding	1 week
Contingency	2 weeks
	26 weeks

The thesis for the PhD is not to exceed 60,000 words in length (80,000 by special permission), exclusive of tables, footnotes, bibliography, and appendices. Double-spaced or one-and-a-half spaced, with single or double-sided printing.

Further details can be found at https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/submitting-and-examination/phd-msc-mlitt/word

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A 60,000 word thesis would take around 15 weeks if completing around 2 pages every day. However, you should aim for around 150 pages and 45,000 words. Arrange in advance the points at which your Supervisor will need your drafts. Your Supervisor will be able to recommend some well-written thesis and you might like to have a look at them before starting to write. Once you have started to write, spell check as you go along to build up your own dictionary.

Submission of the Thesis

Before submission of your thesis you need to have applied for Examiners, which entails submission and approval of a precise thesis title and submission of a summary of about 300 words in length (approximately one side of A4). The summary will be considered by the Examiners. Details of this process can be found at https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/submitting-and-examination/phd-msc-mlitt/prepare

Once the thesis is complete you can submit two soft bound copies to the Student Registry, along with all paperwork listed here - https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/submitting-and-examination/phd-msc-mlitt/submit

You may need extra copies for yourself and your Supervisor(s).

If you wish to submit extensive datasets electronically as an Appendix and/or include any additional materials alongside your thesis, you must seek permission through the CamSIS Self Service page, prior to the soft bound submission of your thesis.

Full details on submitting your thesis can be found at https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/submitting-and-examination/phd-msc-mlitt/submit

The Head of Department, in consultation with your Supervisor, will then nominate two Examiners. It is usual that one of the examiners is from within the University and one from outside the University.

The Examination and Viva

Once your thesis is submitted the Examiners will read your thesis and each will write a separate report. They will then arrange to give you a viva voce in which they will closely question you about any and all aspects of your work. They will write a joint report on the viva.

The viva is not an inquisition, but an opportunity for the Examiners to make sure you fully understand your work and for you to explain, if necessary, any of the more abstruse aspects of your experimental findings. Make sure you re-read your thesis a day or so before the viva and arrange to have a chat with your Supervisor about what he or she thinks might be some of the points which could be raised by the examiners. If you feel nervous, persuade your Supervisor to give you a mock viva and ask you your worst nightmare questions.

The viva is not a “best suit” or “smart dress” affair but it would probably not be a good idea to turn up in jeans and a T-shirt. Remember that it is you and your thesis that are on show. Good examiners will make every attempt to put you at ease and when you answer their questions, look them confidently in the eye. Think (briefly) before you answer detailed

questions. If in the period between handing in your thesis and the viva you have second thoughts about some of your conclusions, raise these issues with the Examiners. If you genuinely do not know the answer to a particular question, say so and ask the examiner for their opinion. Above all, try and be relaxed and realise that the Examiners want you to get your PhD.

Further details can be found at https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/submitting-and-examination/phd-msc-mlitt/oral#oral

The Final Stages

After your oral examination (viva voce) the reports are sent to your Degree Committee for consideration at their earliest meeting. The recommendation from the Degree Committee is then sent to the Postgraduate Committee for consideration. Student Registry will email you (on behalf of the Postgraduate Committee) to confirm the result. For details see - https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/submitting-and-examination/phd-msc-mlitt/after

It is likely that there will be at least some corrections to your thesis, which your Examiners will outline. Details on the process can be found at https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/submitting-and-examination/phd-msc-mlitt/oral#corrections

Once you have completed these satisfactorily, then you can produce and hard-bind copies of the final thesis version, and submit them to the Student Registry. Note that in addition to submission of a hard bound thesis you are also required to upload an electronic version of your thesis to the University repository, Apollo. Details can be found at https://www.cambridgestudents.cam.ac.uk/your-course/examinations/graduate-exam-information/after-examination/degree-approval-and-1

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16.6 Appendix VI: Department statement on Plagiarism

The Department of Plant Sciences uses Turnitin UK to screen student work. Screening is carried out only if concerns are raised about the originality of work. All work screened will be reviewed by the Academic Integrity Officer to determine whether further action may be necessary. Use of Turnitin UK complies with UK Copyright and Data Protection Laws. Submission to Turnitin does not affect your ownership of the work; the copyright and intellectual property of all work remains with the original owner (normally the student, with the exception of some sponsored research projects). No personal or sensitive data will be transmitted.

Work screened by Turnitin UK will be retained in the Turnitin database for comparison with future submissions; if matches are identified, the full text is not accessible to other institutions, only the matching text. You may request that your work is removed from the Turnitin UK database at the conclusion of the examination process, but this must be done separately for each piece of submitted work. Retaining your work on the database will help to ensure that your work remains protected from future attempts to plagiarise it, will help maintain the integrity of the University's qualifications, and will maximise the effectiveness of the software.

Students are responsible for ensuring they have read and understood the University's Statement on Plagiarism, https://www.plagiarism.admin.cam.ac.uk/. Queries about plagiarism or the Faculty's use of Turnitin UK should be addressed in the first instance to your Director of Studies or College Tutor.

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16.7 Appendix VII: Summary of Postgraduate Student Activities

Michaelmas Term Starters	**Michaelmas Term**	**Lent Term**	**Easter Term**
Year 1	· First Year Project Proposal *(Nov)*		· First Year Seminar *(May)* · First Year Report *(June)*
Year 2	Second Year Lab Meeting Presentation to be scheduled		
Year 3	· Third Year Plan *(Oct)* · Third Year Poster Presentation *(Dec)*		
	Third Year Seminar to be scheduled		
Year 4	· Fourth Year Plan *(Oct)*		

Lent Term Starters	**Lent Term**	**Easter Term**	**Michaelmas Term**
Year 1	· First Year Project Proposal *(Feb)*		· First Year Report *(Oct)* · First Year Seminar *(Nov)*
Year 2	Second Year Lab Meeting Presentation to be scheduled		
Year 3	· Third Year Plan *(Jan)*		· Third Year Poster Presentation *(Dec)*
	Third Year Seminar to be scheduled		
Year 4	· Fourth Year Plan *(Jan)*		

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<table>
<tr><th><u>Easter Term Starters</u></th><th>Easter Term</th><th>Michaelmas Term</th><th>Lent Term</th></tr>
<tr><td>Year 1</td><td>· First Year Project Proposal (May)</td><td>· First Year Seminar (Nov)</td><td>· First Year Report (Jan)</td></tr>
<tr><td>Year 2</td><td colspan="3">Second Year Lab Meeting Presentation to be scheduled</td></tr>
<tr><td rowspan="2">Year 3</td><td>· Third Year Plan (April)</td><td>· Third Year Poster Presentation (Dec)</td><td></td></tr>
<tr><td colspan="3">Third Year Seminar to be scheduled</td></tr>
<tr><td>Year 4</td><td>· Fourth Year Plan (April)</td><td></td><td></td></tr>
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NOTE:

BBSRC DTP Students are required to submit their Third Year Plan and Fourth Year Plan in line with Michaelmas Term starters.

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16.8 Appendix VIII: Timetable for Postgraduate Student Activities in Academic Year 2020/21

6 October 2020	**Full Michaelmas Term**
6 October 2020	**Michaelmas Term Postgraduate Education Committee (PGEC) meeting**
6 October 2020	Two copies of **First Year Report & Personal Progress Log** to be handed in (**Lent Term 2019 starters**)
6 October 2020	**University Postgraduate Safety Course for new graduate students*** General Safety & Chemical/Laboratory Safety. *The University Postgraduate Safety Course will be run virtually with arrangements to be confirmed nearer the time.* For information please see: https://www.safety.admin.cam.ac.uk/training/graduate-safety-course ***Attendance is mandatory**
7 October 2020	**University Postgraduate Safety Course for new graduate students** Optional research appropriate sessions. Supervisor to advise on which session(s) to attend. *The University Postgraduate Safety Course will be run virtually with arrangements to be confirmed nearer the time.* For information please see: https://www.safety.admin.cam.ac.uk/training/graduate-safety-course/choosing-sessions
8 October 2020	10.00-11.30: **Introductory talk by Professor Howard Griffiths, Departmental Postgraduate Education Committee (PGEC) Chair** Virtual introductory talk for all new postgraduate students. *Invitations and joining instructions to follow.* 11.30-12.00: **Department Library – Induction** Virtual induction session on library services for all new Postgraduate and Part II students. *Invitations and joining instructions to follow.* 15.00-16.30: **Departmental Safety Induction Training Session*** *The Departmental Safety Induction Training Session will be run virtually with arrangements to be confirmed nearer the time.* ***Attendance is mandatory**
9 October 2020	17.00-18.30: **Departmental Welcome Reception** A virtual introduction to Research Group Leaders for all new Postgraduate Students and Part II Undergraduates.

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23 October 2020	**Third Year Research Plan** to be handed in (**Michaelmas Term 2018 starters, including BBSRC DTP students**)
23 October 2020	**Fourth Year Research Plan** to be handed in (**Michaelmas Term 2017 starters, including BBSRC DTP Students**)
9 November 2020	**First Year Project Proposals** to be handed in **(Michaelmas Term 2020 starters)**
November 2020 *(Dates to be confirmed)*	**First Year Seminars** presented by **Lent Term 2020 starters** and **Easter Term 2020 starters, including BBSRC DTP students**. *Arrangements to be confirmed nearer the time.* ***Attendance by all Postgraduate Students is mandatory.***
November/December 2020 *(Date to be confirmed)*	**First Year Report preparation: guidance and advice** session held by GEC Chair *Arrangements to be confirmed nearer the time.*
1 December 2020	**Departmental Research Day & Poster Day** for Third Year Students (**Lent Term 2018 starters, Easter Term 2018 starters and Michaelmas Term 2018 starters, including BBSRC DTP students**). Third Year Students should be present to discuss their posters with supervisors and colleagues. *Arrangements to be confirmed nearer the time.*
4 December 2020	**Full Michaelmas Term ends**
10 January 2021	Two copies of **First Year Report & Personal Progress Log** to be handed in (**Easter Term 2020 starters, including BBSRC DTP students**)
19 January 2021	**Full Lent Term starts**
19 January 2021	**Lent Term Postgraduate Education Committee (PGEC) meeting**
19 January 2021 *(Date to be confirmed)*	**University Introductory Postgraduate Safety Course*** (**for Lent Term 2021 starters & Easter/Michaelmas Term 2020 starters who missed the course in October 2020**). *Arrangements to be confirmed nearer the time.* For information please see: https://www.safety.admin.cam.ac.uk/training/graduate-safety-course ***Attendance is mandatory**
5 February 2021	**Third Year Research Plan** to be handed in (**Lent Term 2019 starters**)
5 February 2021	**Fourth Year Research Plan** to be handed in (**Lent Term 2018 starters**)

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22 February 2021	**First Year Project Proposals** to be handed in (**Lent Term 2021 starters**)
March/April 2021 *(Date to be confirmed)*	**First Year Report preparation: guidance and advice** session held by PGEC Chair *Arrangements to be confirmed nearer the time.*
19 March 2021	**Full Lent Term ends**
27 April 2021	**Full Easter Term starts**
27 April 2021	**Easter Term Postgraduate Education Committee (PGEC) meeting**
14 May 2021	**Third Year Research Plan** to be handed in (**Easter Term 2019 starters**)
14 May 2021	**Fourth Year Research Plan** to be handed in (**Easter Term 2018 starters**)
May 2021 *(Dates to be confirmed)*	**First Year Seminars** presented by **Michaelmas Term 2020 starters** *Arrangements to be confirmed nearer the time.* ***Attendance by all Postgraduate Students is mandatory.***
31 May 2021	**First Year Project Proposal** to be handed in **(Easter Term 2021 starters**)
1 June 2021	Two copies of **First Year Report & Personal Progress Log** to be handed in (**Michaelmas Term 2020 starters**)
18 June 2021	**Full Easter Term ends**
22 June 2021	**Long Vacation Postgraduate Education Committee (PGEC) meeting**

NOTE:

For the purpose of postgraduate study, Easter and Long Vacation count together.

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16.9 Appendix IX: Research and Training Concordat for Postgraduate students within the Department of Plant Sciences

October 2020, Departmental Postgraduate Education Committee

This document provides a framework to ensure that postgraduate students (PhD and MPhil), their supervisory teams and the Department of Plant Sciences work well together during postgraduate studies. The Concordat provides a qualitative summary of opportunities and expectations for postgraduate students and their supervisors, and is not a substitute for the detailed explanations formally provided within key documents, which include:

- University of Cambridge Code of Practice for Research Students (https://www.cambridgestudents.cam.ac.uk/grad-code-of-practice),
- Postgraduate School of Life Sciences 'best practice' for monitoring, assessment and mentoring
- Department of Plant Sciences Postgraduate Student Handbook

The Department recognises that postgraduate students within the Department are drawn from a variety of backgrounds and countries, and are supported by a number of funding mechanisms, which differ in the level of support for fees, subsistence and consumables, and the period of support also varies (between 3 and 4 years for completion). The overall goal of the Concordat is to celebrate such diversity, but also recognises the contrasting pressures faced by student and supervisor to deliver successful completion, which takes account of each individual student's circumstances and welfare.

Provision by the Department for the Postgraduate student community

Well organised Postgraduate Administration system: to co-ordinate admissions, progression and completion, the Postgraduate Administrator monitors routine reporting of progress towards thesis submission, and uptake of additional training opportunities within the Department and Postgraduate School of Life Sciences. Supervision and monitoring norms are also ensured across contrasting primary locations (the Department, Sainsbury Laboratory, NIAB and BAS, as well as other supervisory partners) for those candidates specifically registered through the Department.

Supportive framework for monitoring training and progression: formally co-ordinated through the Postgraduate Education Committee (PGEC), and regular reporting via CamSIS, annual hurdles for progression to facilitate timely completion within a maximum of 4 years for typical PhD programmes. The PGEC reporting framework should also allow for the extent of funding (3, 3.5 or 4 years) to be factored into the overall assessment of progress.

Provision of an approachable and responsive supervisory teams: expert and informed supervisory teams, (including the primary supervisor and any co-supervisor, as well as Departmental and PGEC Advisors, and allied Post-doctoral researchers), will comment regularly on research progression through both formal meetings, and informal interactions. It is important to note that appropriate deadlines for submission and return of written drafts should be agreed by the supervisor and postgraduate student. The supervisory team should ensure that appropriate health and safety advice and training has been provided and can also direct to appropriate authorities offering welfare guidance at Departmental or College level when required.

Facilities for research in well–founded laboratories: each supervisor initially confirms that the research programme can be supported using existing group funds. As far as

possible the Department will ensure that modern analytical approaches can be undertaken, or accessed, through the provision of wet-lab bench space as and when required. The Department will also provide core facilities for growth, maintenance and disposal of plant material compliant with official health and safety guidelines, as well as accounting support to manage funds targeted for postgraduate studentships. Supervisors should work with postgraduate students to develop proposals for matched funding when appropriate.

Provision of fundamental resources required for data analysis: within the physical limitations of existing buildings, the Department will endeavour to offer appropriate quiet office areas which allow access to relevant literature, data analysis and focus for drafting of reports, publications and theses. Depending on the demand of an individual postgraduate for wet lab and an office area, some level of sharing may be required in some groups. The Department will develop a transparent system to allow postgraduates (in consultation with their Supervisor) to apply for a combination of wet lab and office space provision, when both are required. Some degree of shared facilities or hot-desking may be required, depending on research activities and progression within a specific postgraduate research programme.

Monitor and award Departmental financial support when appropriate: the Department recognises the differing levels of resource provision across contrasting funding schemes. When possible, the Department will use appropriate Trust Funds and reserves to support research engagement and more equable allocation of resources in response to reports of need, provided that research promise is being fulfilled. The Department will consider mechanisms to provide some level of funding for research activities when research expenses are not explicitly provided by funding agencies, in consultation with Supervisors and co-ordinated through the PGEC.

Provide an inclusive environment and foster a research ethos: all members of the Department conform to the University guidelines on equal opportunity and dignity in the workplace, and Supervisors and members of associated research groups should not tolerate inappropriate behaviour. However, we hope that Departmental activities will promote social inclusion and build bridges between research groups and across the postgraduate cohort, with financial resources provided each year to promote Postgraduate Forum activities.

Engagement by Postgraduate Students for the Department and allied institutions

Embrace the challenge for undertaking fundamental and independent research: there are challenges in establishing a research programme for a postgraduate student, which requires independence and engagement with both practical and theoretical aspects of the research area. Each postgraduate student should recognise the support available within individual research groups, and through their supervisory team and the postgraduate administration system. These provide a safety net to assist in making progress within constraints of time and funding availability for each postgraduate programme.

Develop the framework offered for monitoring training and progression: the role of the PGEC and the reporting framework is there to provide support and allow self-assessment as well as inputs from your supervisor and allied expertise within the Department. Each postgraduate will take responsibility for timely production of scientific presentations, reports and drafting of final thesis components in advance of formal deadlines for submission. Appropriate timelines for completion and return of draft content should be agreed with the supervisor well in advance of deadlines for final submission of any report or the final thesis.

Recognise importance of health and safety training: adhere to Departmental guidelines for good research practice and ensure that care is taken both within a laboratory, en route to Plant Growth Facility, or during preparation and engagement in fieldwork activities. Ensure that appropriate guidance and support is being provided by your supervisory team and bring any concerns to their attention.

Take advantage of the supervisory teams to obtain advice on research and dissemination: develop personal organisational and research skills based around the guidelines and training offered in good laboratory practice and/or use of computational facilities. A timetabled framework will allow you to meet regularly with your Supervisor, and discuss openly any concerns you may have with research support, progress and your response to supervision reports. Interact with, and support fellow members of associated research groups and be receptive and responsive to advice from your supervisory team and fellow Post-Doctoral Researchers and postgraduates.

Evaluate resources required to undertake research and data analysis: whilst accepting the constraints of working within a building which has been updated as far as possible to modernise wet laboratory facilities and provide adequate office space for postgraduates and post docs, recognise the need for flexibility in adapting your individual requirements as your research programme develops. Ensure that these issues are addressed at the regular meetings with your Supervisor, and be prepared to discuss more generic issues through the Postgraduate Forum and your postgraduate representation on the PGEC and Departmental Staff Committees.

Seek matching funds to support research and dissemination activities: depending on the funding status of your specific programme, work with your supervisor to develop applications for support for external engagement activities, whether applying to Departmental Trust Funds and reserves to support research, collaborations with external laboratory or analytical facilities. The aim is to build a portfolio of support from individual Research Group funds, and sources such as your College and the Cambridge Philosophical Society, as well as Conference organisers, when seeking to organise attendance at conferences and symposia.

Become engaged in the wider opportunities for training, teaching and outreach: be prepared to undertake training courses, engage in teaching opportunities and outreach activities when primary research commitments permit.

Promote an inclusive environment within and beyond each research group: when time permits, be proactive in helping to organise and engage in activities through Departmental Postgraduate Forum, and more *ad hoc* social opportunities. Also discuss possible breaches in the Dignity at Work consensus and report inappropriate behaviour to members of your supervisory team, or directly to a member of the PGEC or your College Tutor.

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