



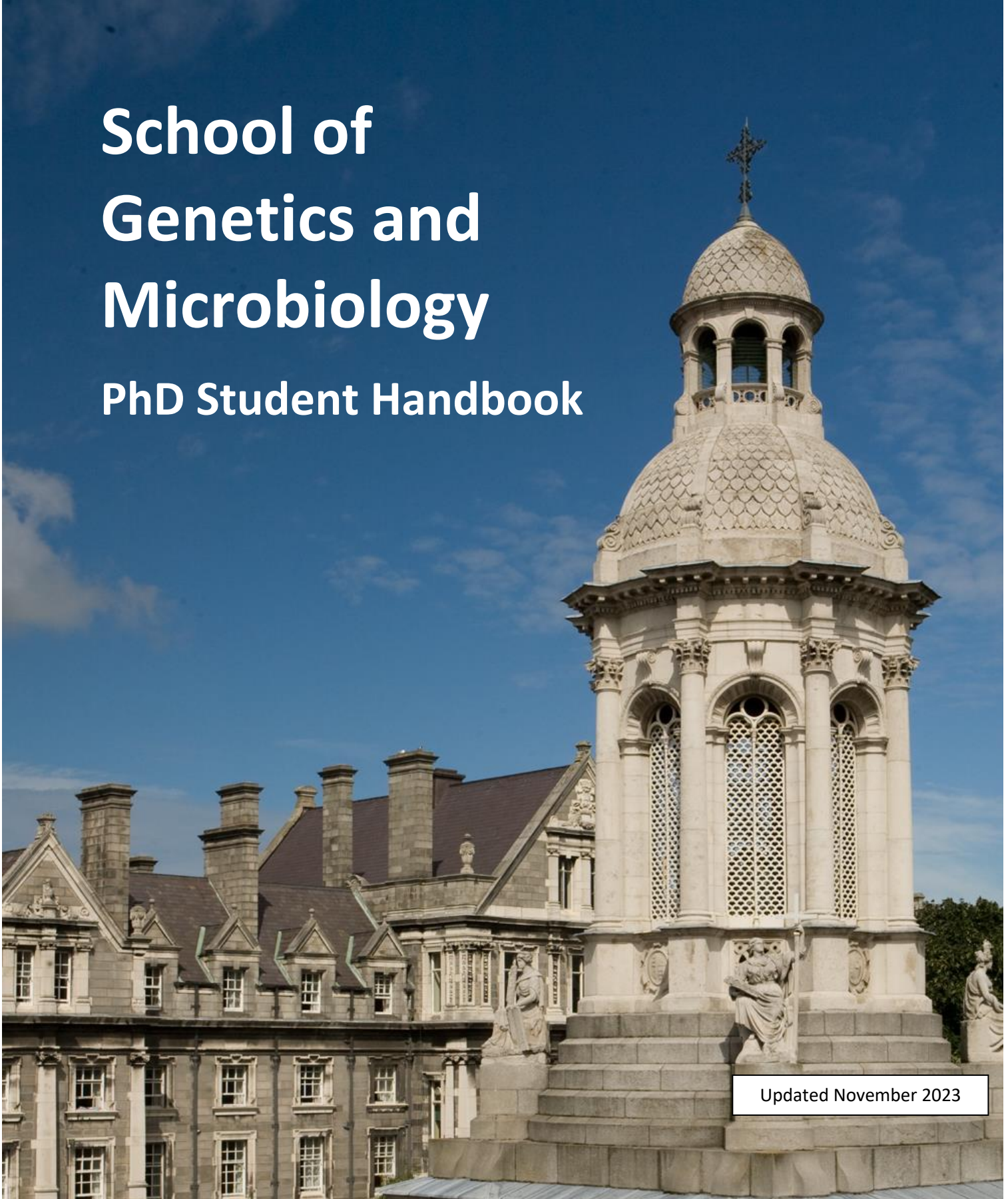
**Trinity College Dublin**

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

# School of Genetics and Microbiology

## PhD Student Handbook



Updated November 2023

## Table of Contents

1. Welcome .....	3
2. Contacts .....	3
3. Some housekeeping matters .....	4
4. College Regulations.....	4
5. Getting set up as a PhD student .....	5
6. Responsibilities of Supervisors and PhD Students.....	6
7. Grievance resolution.....	8
8. Structured PhD Programme.....	8
9. General information regarding PhD studies in Genetics and Microbiology.....	9
10. Thesis Committees.....	13
10.1. Genetics .....	13
10.2. Microbiology .....	13
11. Student progression - end of Year 1 and 3 .....	14
12. Confirmation Report and Presentation – end of Year 2 .....	14
12.1 Genetics .....	14
12.2 Microbiology .....	14
13. Student progression – end of Year 2 .....	16
14. Preparing the PhD thesis .....	17
15. Steps for submitting a PhD thesis and arranging the <i>viva voce</i> .....	18
16. Examination of the Thesis.....	19
17. Publication .....	20
18. Demonstrating and supervision.....	20
Appendix I – Support services for research students .....	22
Appendix II - Modules available to research students.....	23
Appendix III – Microbiology Student Report Summary .....	26
Appendix IV – Thesis Submission Flow Chart.....	27

## 1. Welcome

Welcome to the School of Genetics and Microbiology and congratulations on your new position as a Trinity postgraduate student. Hard work got you to this stage, and while there is undoubtedly much more ahead, you will hopefully find it rewarding and well worth the effort. You are well supported on this journey, by your supervisor, your peers and colleagues, the various academics and administrative staff listed in the following pages, and the numerous support structures that Trinity provides to ensure that you have the best possible experience in your postgraduate journey. This handbook provides you with the information that you need to navigate through the various milestones and checkpoints ahead of you between now and submitting your thesis. There is also information on important requirements for your PhD, and contact information should you have queries.

We wish you every success in your PhD, and we hope you enjoy your time as a postgraduate at Trinity.

*Russell McLaughlin*

Director of Postgraduate Teaching and Learning

## 2. Contacts

Director of Postgraduate Teaching and Learning (DTLP)	Dr Russell McLaughlin	<a href="mailto:russell.mclaughlin@tcd.ie">russell.mclaughlin@tcd.ie</a>	01-8961288
Head of School	Prof. Jane Farrar	<a href="mailto:jane.farrar@tcd.ie">jane.farrar@tcd.ie</a>	01-8963695
Director of Research	Prof. Frank Wellmer	<a href="mailto:wellmerf@tcd.ie">wellmerf@tcd.ie</a>	01-8963729
Head of Department: Genetics	Prof Matthew Campbell	<a href="mailto:matthew.campbell@tcd.ie">matthew.campbell@tcd.ie</a>	01-8961482
Head of Department: Microbiology	Dr Marta Martins	<a href="mailto:mmartins@tcd.ie">mmartins@tcd.ie</a>	01-8961194
School Manager	Ms. Laoise Quinn	<a href="mailto:laoise.quinn@tcd.ie">laoise.quinn@tcd.ie</a>	01-8962873
Department Office: Genetics	Ms. Alicia Vega	<a href="mailto:genetics@tcd.ie">genetics@tcd.ie</a>	01-8961140
Department Office: Microbiology	Ms. Jayne Vance	<a href="mailto:magoverj@tcd.ie">magoverj@tcd.ie</a>	01-8961190

**Graduate Studies website:** <http://www.tcd.ie/graduatestudies/students/research/>

### 3. Some housekeeping matters

#### **Statement related to out-of-hours work/safety**

The School of Genetics and Microbiology strives to create an environment where all staff and students are provided with a supportive environment that encourages scientific excellence and success. To this end, our ethos is founded on striking a balance between a strong work ethic and personal well-being management. While research requires a substantial time commitment and if the need arises, out of hours work in laboratories will be necessary, you will not be expected to work beyond pre-defined weekly working hours on a regular basis. When students or staff need to work out of hours, appropriate additional safety precautions must be adhered to. It is encouraged that meetings follow Trinity guidelines and take place 10am – 4pm if possible. Standard working hours are considered to be weekdays 9-5pm, but we understand that research requirements can be flexible and may need to fit outside of these times, following discussion between supervisor and student.

#### **Communication**

Announcements will be made by emailing you at your **@tcd.ie** email address. It is important that you check this mailbox regularly or set it up to forward to an account that you do read.

#### **Behaviour**

We expect very high standards of personal behavior in the School of Genetics and Microbiology, consistent with professional status. Please do not invite students from other departments or your friends into the Smurfit Institute or the Moyne Institute, and when you are in the buildings, please keep noise to a minimum. Alcohol and smoking in the buildings are absolutely forbidden.

#### **Safety**

Please make sure that you have received and have read the School Safety Manual. Remember also that you are responsible for your own safety and that you have a responsibility not to endanger others by your actions.

#### **College Contacts**

Please refer to [Appendix I](#) and the [Trinity Postgraduate Research Student Handbook](#)

### 4. College Regulations

Regulations for Higher Degrees by Research are contained in the University Calendar Part III. The University Calendar is available in all College libraries, the departmental offices and online (<http://www.tcd.ie/calendar/>). Please refer to the University Calendar for general regulations, governing higher degrees by research only, for information on topics such as:

- Admission requirements
- Probation

- Subject of research
- Role of Director of Teaching and Learning (Postgraduate)
- Progress and continuing registration Role of Supervisors
- Attendance
- Part-time registration
- Extension and off-books
- Transfer to/Confirmation on the PhD register
- Procedure for examination of a candidate
- Complaints concerning supervision
- Appeal against the decision of examiners
- Plagiarism.

## 5. Getting set up as a PhD student

Prior to being employed as a research student in the School of Genetics and Microbiology, students must first submit their application <http://www.tcd.ie/courses/postgraduate/how-to-apply/> and then complete the registration process.

Please note September and March are the two registration periods for postgraduate research students in Trinity.

### **Step 1**

Student and PI complete a Graduate Student Proposal Form:

[http://www.tcd.ie/hr/assets/doc/Graduate\\_Student\\_Proposal\\_Form.docx](http://www.tcd.ie/hr/assets/doc/Graduate_Student_Proposal_Form.docx)

Grant Holder/PI is asked to use electronic signatures.

### **Step 2**

In order to receive payment, student should complete a Pay Mandate Form:

<http://www.tcd.ie/hr/assets/excel/directpaymandate.xlsx>

### **Step 3**

So student does not pay tax on their stipend, a Scholarship Exemption Declaration is completed:

<https://www.tcd.ie/hr/assets/pdf/undergraduate-scholarship-exemption-declaration.pdf>

### **Step 4**

All three forms should be submitted in a single e-mail to the School Manager, who checks and forwards to Human Resources/Payroll.

### **Step 5**

Once submitted the student will be sent a Departmental/Research Funding Document to complete along with the PI and Head of Department.

[https://www.tcd.ie/media/tcd/physics/pdfs/PG\\_Form\\_1-Departmental-Research-Form\\_20-21.pdf](https://www.tcd.ie/media/tcd/physics/pdfs/PG_Form_1-Departmental-Research-Form_20-21.pdf)



In all cases, it is the responsibility of the Grant Holder (or PI or Lab Manager) to submit these forms. Please note that for a Research Student to be paid on the 20th of a given month, all forms must be submitted to Human Resources by the end of the previous month.

## 6. Responsibilities of Supervisors and PhD Students

The supervisor's role is as academic guide and mentor. In an ideal situation, a strong working relationship will develop between supervisor and student, extending beyond the PhD study period and will be a lasting career benefit. Such a relationship must be based on mutual respect and will require significant effort by both parties. Regular communication is essential to developing a strong working relationship - grievances should not be allowed fester. Issues should be brought explicitly to the attention of the other party, but do not assume the other party is aware that a problem exists.

Together, the supervisor and student should work to achieve the student's academic and intellectual independence. The supervisor's role is most important at the beginning of a PhD when the project is being formulated and the student is learning new techniques. As the work progresses, the student should become more independent and not rely on the supervisor for detailed instructions as to what to do. However, it is important to recognise that supervisors have substantial research experience in the field. Students should be cognisant of their supervisor's guidance in mastering the many skills required to achieve a PhD, including: choice of scientific problem, experimental design, technical approaches, scientific best practice, critical evaluation of data, critical evaluation of literature, data presentation, career planning and many others. Your supervisor should also play a major role in helping you track the progress of your work and in developing good project management skills.

Students should make themselves familiar with Trinity's Good Research Practice policy and supervision guidelines available from the [Graduate Studies Office webpage](#):

### **A student can expect their supervisor to:**

- Meet with them at mutually convenient times on a regular basis
- Advise on experimental or research strategies
- Assist in interpretation of data and results
- Work with the student to prepare work for publication

### **A supervisor can expect a student to:**

- Conduct their work with integrity and diligence
- Avoid plagiarism and all other forms of academic misconduct
- Keep a detailed lab notebook
- Report the status of their work at regular lab meetings
- Write the first draft of manuscripts arising from the student's work
- Prepare and deliver seminars within the School as well as at international conferences
- Communicate any difficulties to the supervisor as soon as they arise

More details on the Trinity's Student/Supervisor Relationship can be found at [Postgraduate Research Student Handbook](#)

## 7. Grievance resolution

If a problem arises the best solution is resolution with the supervisor directly; therefore, good communication and mutual respect between supervisor and student is essential. If the problem cannot be resolved in this way, it is recommended that the issue be addressed through mediation with the following people, preferably in the order listed:

- 1) Director of Postgraduate Teaching and Learning (DTLP)
- 2) Your Thesis Committee
- 3) Head of Department

If the problem remains unresolved, the student should contact the Head of School for advice. All discussions will be held in the **strictest confidence**.

College also provides a [Postgraduate Advisory Service](#) and students may refer to this service for advice and assistance. However, we strongly recommend that a resolution is sought within the School before seeking external assistance. Please also see Trinity's [Dignity and Respect Policy](#)

## 8. Structured PhD Programme

Once registered, you are on a 4-year (full-time) or 6-year (part-time) structured PhD in Trinity. What does this mean?

- You complete a PhD project which is the central focus of your research for the 4/6 year period.
- 'Research Integrity and Impact in an Open Scholarship Era' (5 ECTS) is a mandatory module for all research students.
- It is compulsory to complete modules to the value of between 10 (min.) and 30 (max.) ECTS.

You may take modules set up by the School specifically for PhD students, modules from taught Masters programmes (in another School, by permission of that School), or modules provided by non-academic units in College for PhD students. These include modules provided by the [Trinity Innovation](#), [Academic Practice](#), [Student Learning and Development](#) and the [Library](#). Additionally, students engaged in laboratory animal work can obtain 10 ECTS by completing the 'Laboratory Animal Safety and Training' (LAST) module.

In order to register for structured PhD modules please contact the module coordinator. Further information on modules for credit available to PhD students can be obtained from <https://www.tcd.ie/graduatestudies/students/research/structured-phd-modules/> and also [Appendix II](#)



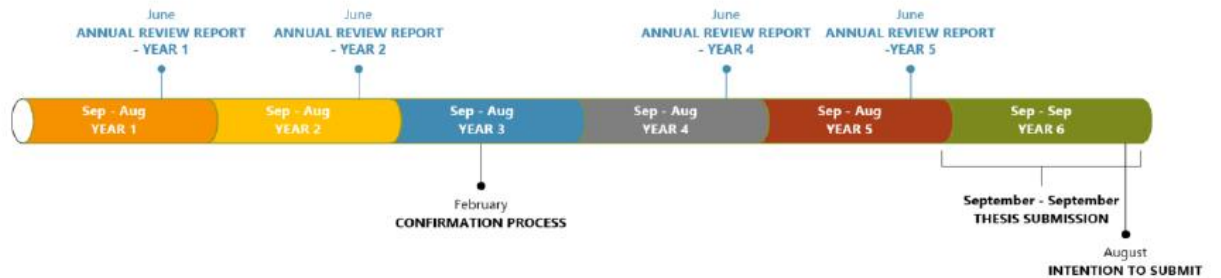
## 9. General information regarding PhD studies in Genetics and Microbiology

### Postgraduate Research Progression Deadlines (Sept Intake)

Full-time PhD students

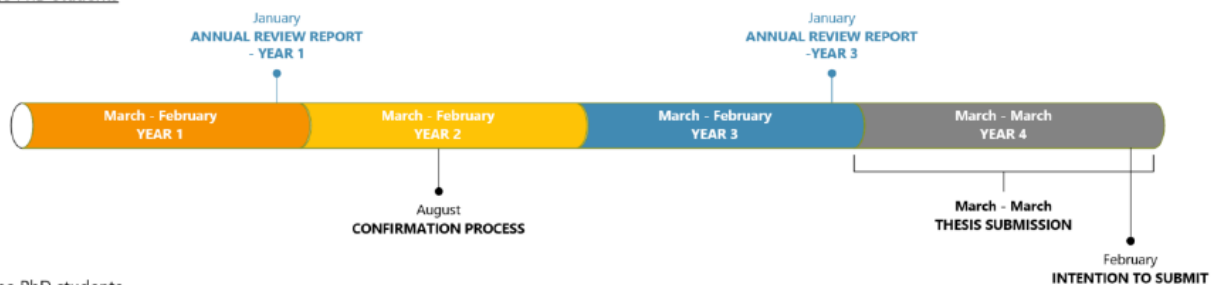


Part-time PhD students

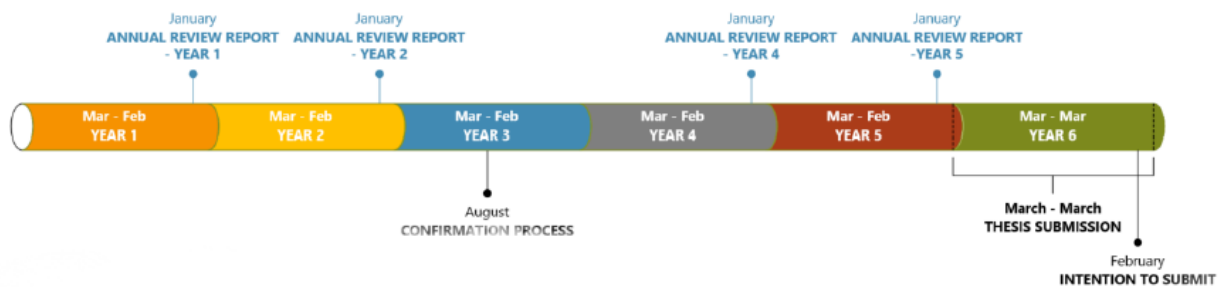


### Postgraduate Research Progression Deadlines (March Intake)

Full-time PhD students



Part-time PhD students



## **The First Year**

In the first year the student must become familiar with the area of research through reading literature. It is important to learn how the proposed research project relates to the field, the other scientists working in the area, and their interests and contributions. This task is difficult if taken on in isolation. A research-active supervisor should be familiar with the work of other groups in the field and be able to give advice that will help avoid needless duplication of work already underway elsewhere (or which has already been completed). As in all walks of life, modern science is competitive and it is important to know and appreciate what one's competitors are doing.

The first year is also the time in which the experimental work is initiated. Often this involves a painful period of false starts and setbacks, frequently for technical reasons. Modern molecular biology employs many techniques which can sometimes prove to be difficult to master. However, there is an art to the successful employment of *any* technique (molecular or otherwise) and the student must acquire competence in these areas if useful data are to be obtained.

The easiest course is to choose a research problem that can be solved using the existing technical and intellectual expertise of the supervisor's laboratory. However, if everybody took this approach, methodologies within individual labs would never advance. In order to make progress, it may be necessary to learn methods that are new to the lab. Here it is important for the student to take the initiative and to seek (with the help of the supervisor) expert advice beyond the home lab, either elsewhere in the School, within the University or even further afield. Constantly repeating a procedure which is not delivering results is ultimately futile and is also bad for morale.

Within the first six months the student should become capable of describing the nature of the research problem, how it relates to the field, and what methods are to be used to address it. Some students may even be producing useful data at this point. Monitoring of progress is crucial to identify any problems at this early stage and your Thesis Committee is there to help with this.

## **The Second Year**

In Year Two, the bulk of a substantial part of the experimental work should be carried out. The first year is the time for the 'lag-phase' of the learning curve, when the pitfalls of the techniques are encountered, and tricks-of-the-trade acquired. By Year Two, the foundation should be laid for a concentrated period of productive work. If the lag-phase extends into Year Two, something is probably going wrong. The project may have been too ambitious, the lab may not provide critical items of technical or intellectual support, the student may not be using the available resources well (perhaps by being slow to seek help), there may be difficulties with the supervisor/student relationship which hampers effective communication, the student may be unmotivated or have little aptitude for research.

If all is going well, Year Two should see the student gathering a substantial amount of the material for the results chapters of the thesis. These data must be scrutinised critically by student and

supervisor and discussed with as many colleagues as possible. During postgraduate education, the student should develop strong critical faculties where scientific data of all kinds are concerned. This ability comes from engaging in discussion and debate with other professional scientists at every opportunity, both in informal settings (e.g. coffee room) and organised settings such as School Seminars, invited lectures by external speakers and journal club. Regular lab meetings provide an opportunity to discuss results and any technical difficulties with other members of the group in the supervisor's presence. Students should aim to participate fully in these meetings - they should not simply be a means of bringing a busy supervisor 'up-to-date' with the development of the project.

If critical and analytical skills are not learnt at this period of the postgraduate experience, their absence will show during the *viva voce* examination in which the student is called upon to defend the thesis. An absence of these critical skills in reasoning and deduction will also hamper the student in later phases of life, such as during postdoctoral research. It is unlikely that such a person will make an independent and effective scientist, although they may be capable of being trained to carry out the directives of others.

A PhD degree in Genetics or Microbiology from Trinity should tell a potential employer immediately that the holder is both an independent thinker (i.e. a Doctor of Philosophy) and an effective experimentalist. During this very busy second year, the student must not neglect developments elsewhere in the field, or in science in general.

Keeping up with the literature is essential and requires self-discipline. On the US National Library of Medicine database PubMed, it is easy to set up an email alert for a given search term so that you are notified when new relevant literature is published in your field. The student should also be encouraged to participate in scientific conferences by presenting a poster or a short lecture. Attendance at such meetings allows the student to meet and talk to a wider range of scientists and may help to give the student some ideas about future employment choices.

### **The Third and Fourth Years**

Ideally, in Year Three, the experimental work should draw to a close and the writing of the thesis should begin. Writing always takes longer than many students imagine so it is important to get the task underway as early as possible. One of the worst situations to find oneself in, is to have left the Department with the thesis unwritten. The demands of a new job, possibly in a foreign country (and perhaps with a new language to learn) will rapidly erode any spare energy which the student had hoped to devote to writing in the evenings. It is theses of this type that run the risk of never being completed.

There may also be a financial penalty to be paid for not finishing the thesis: most funding organisations refuse to pay 'postdocs' on a postdoctoral salary scale until they have submitted the thesis. There may be differences of opinion between students and supervisors about when the bench work should stop. The student should remember that the PhD Thesis Committee members are available to help

resolve these issues.

A full-time student can remain on the PhD register for no longer than four years. One extra month (*e.g.* the September following the third year, or fourth year if a student registered in September) called “Dean’s Grace” can be requested from the Dean of Graduate Studies in order to submit the thesis without financial penalty. However, for various reasons, postgraduate students may need to extend their stay in the department for a further 6-12 months. It is often possible for the supervisor to provide support for this.

## 10. Thesis Committees

Students will be assigned a Thesis Committee comprising of 2 members of academic staff as well as their primary supervisor. Once assigned, the student should introduce themselves informally to their committee. The Thesis Committee acts as the PhD confirmation panel to decide on continuation on the PhD register. The Chair of the Thesis Committee will act as the secondary supervisor for the student. PI in consultation with the DTLP will assign the Thesis Committee within 3 months.

### 10.1. Genetics

- 1) Before the end of the student's first and third year on the PhD register, the non-supervisor members of the Thesis Committee should meet with the student in the absence of the supervisor.
- 2) It is the student's responsibility to convene these meetings.
- 3) Students should prepare an outline of their project for this meeting (no more than 5 slides)

### 10.2. Microbiology

- 1) Microbiology students meet with their Thesis Committee at regular six-month intervals to discuss progress. The supervisor is only present for the meeting at 18 months.
- 2) Thesis Committee complete an internal 'Student Report Summary' after each meeting.

At the end of each academic year, and with the approval of their Thesis Committee, the student must register with Academic Registry so as to progress to the next year of their studies.

Trinity requires details of a Progress Report be submitted by the DTLP to Graduate Studies Office after Year 1 and Year 3. Following Year 2, a Confirmation Form (after successful mini-thesis and presentation) is submitted.

## 11. Student progression - end of Year 1 and 3

**\*\*Students will not be invited to register for upcoming year until process is complete\*\***

- 1) DTLP will send a reminder email to students and supervisors with details of their deadline:
  - **September** registrants must send completed Progress Report to the DTLP by **August**
  - **March** registrants must send completed Progress Report to the DTLP by **February**
1. Student, supervisor and Thesis Committee complete the [progress report form](#) and send to DTLP.
2. The DTLP will then contact Academic Registry on the student's behalf, for progression to the next year of their studies.
3. *Please note:* The DTLP is not responsible for any progress reports not submitted on time. Students and supervisors will have to deal with Academic Registry separately.

## 12. Confirmation Report and Presentation – end of Year 2

**\*\*Students will not be invited to register for their 3rd year until process is complete\*\***

### 12.1 Genetics

In Genetics, the student liaises with their Thesis Committee to arrange a date and time for the Confirmation Presentation. Supervisor/student books an appropriate room for the presentation with the Genetics Office.

The student will provide a Confirmation Report (“mini-thesis”), outlining progress of their project to date and plans for the future. While there is no absolute limit, the expected size of a Confirmation Report should be approximately 50-70 pages. It is important to bear in mind that after 18 months you are not expected to have a completed thesis.

### 12.2 Microbiology

In Microbiology, students are required to present a research talk to the Department (approx. 25 to 30 min) and submit a detailed Confirmation Report to the Thesis Committee (booklet with detailed instructions will be provided; report must be read and signed by the supervisor before submission). Further guidelines for the preparation of the report are available from the Microbiology Office. Students and supervisors will be notified by email of the dates of the Thesis Committee meetings taking place every 6 months (usually August and February).

Following a successful Confirmation Report and presentation, the Thesis Committee submits a [Confirmation on the Ph.D. Register form](#) to the Graduate Studies Office, via DTLP. This must be done before the student can progress to Year 3.

### **What should the Confirmation Report contain?**

- An *introduction* that clearly and precisely introduces the research under consideration. The research question(s) and importance of same should be clear from the introduction. All non-original material (figures etc.) should be properly referenced. The introduction should focus on issues and literature relevant to the research question. It is not necessary to write an exhaustive review of the field. The introduction should conclude with a list of clear aims and objectives of the proposed doctoral thesis.
- A *methods* section that contains appropriate detail on how experiments were performed, and the major methodologies employed. It is important to note that candidates may be requested to explain the key technologies used to generate their data.
- A *results* section constructed in a clear and logical manner that allows the reader to follow the experimental data and evidence being presented. Particular attention should be given to the presentation and titles of figures. In all cases, appropriate legends should be included. The results section should demonstrate sufficient progress towards the goal of delivering conclusions, insights or outcomes that would be expected of a doctoral thesis. However, it is important to stress that at this stage (after 18 months' work) the results do not necessarily have to be conclusive or completely novel, but should generate an expectation among the reviewers that these are both achievable within the normal time scale considered appropriate for a doctoral thesis.
- A *discussion* section that draws appropriate conclusion from the results, places them in the context of other published results and develops new insights where appropriate. As per results section, at this stage it is not expected that these insights or proposals be fully formed, but should represent reasonable conjectures.
- The final section should contain an outline (1-2 pages) of the *proposed future directions* of the work, with an estimated timeline of expected key experiments/results and the intended submission date of the thesis. A complete list of references should be provided using a peer review journal accepted format. If you cite an article, you should be familiar with the details and contents of the article as you may be quizzed on this point. If you have hundreds of references, you may attract attention to this point.

It is important to keep in mind that this process is not a dry run for a PhD write up and *viva*, although it should be helpful in preparing for this task. The prime objective of the process is to determine what the research is about and whether it is an appropriate subject for PhD research.



**The report should also contain:**

- A single page abstract/summary of the report
- A complete list of abbreviations employed.

**How long should the report be?**

There is no absolute limit, but the expected size of a confirmation report should be approximately 50 –70 pages. It is important to keep in mind that after 18 months you are not expected to produce a mini-version your PhD thesis.

**The purpose of this confirmation process is:**

- To provide an independent confirmation that research question or area under investigation forms a valid subject for a doctoral thesis.
- To consider whether the approaches taken so far are valid and likely to yield results and insights at a level commensurate with what would be expected of a doctoral thesis.
- To provide an evaluation of the rate of progress towards the goal of a doctoral thesis and likelihood that the student will submit a doctoral thesis within the normal time scale.
- To provide independent advice on possible directions the research might take.
- To encourage both student and supervisor to take stock of the situation at the mid-point position of the normal PhD timescale.

## **13. Student progression – end of Year 2**

**The Confirmation Report should be submitted after 18 months of registration and any corrections/amendments must be completed in advance of the deadline set by the DTLP (c. 22 months post-registration).**

1. Following the Confirmation Report and Presentation, Thesis Committee will complete a single written feedback report (jointly prepared) to provide feedback to the student and supervisor on the project and give their recommendation for continuation on the PhD register. This is forwarded by email to the supervisor and to the DTLP.
2. Supervisor completes/signs the [Confirmation on the Ph.D. Register form](#) with the student and forwards a signed copy by email to the DTLP.
3. DTLP forwards the countersigned form to the student and supervisor while retaining a copy on file.
4. DTLP submits the final Confirmation on the PhD Register form to the Dean of Graduate Studies to complete the process.
5. Upon receipt of the examiners' feedback report, the student and supervisor should meet to formally discuss the feedback and make clear plans for the remainder of the PhD.

There are 5 potential outcomes of the continuation process:

- a) Continuation on the PhD register
- b) Continuation on the PhD register after some minor changes have been made to the PhD Confirmation Report
- c) Continuation on the PhD not recommended at this time: a new Confirmation Report to be written and Confirmation Presentation to be held again as soon as possible thereafter
- d) Recommendation to change to the general Masters register to submit a Masters in Research thesis
- e) Not to continue as a postgraduate research student

## 14. Preparing the PhD thesis

It is normal practice for the supervisor to read and comment on completed chapters of the thesis. However, writing the thesis is the responsibility of the student, and the supervisor may only give advice and guidance on the writing. Reading a thesis is often a demanding task and the student should negotiate with the supervisor to find mutually convenient times for this to be done. It is unfair of the student to expect the supervisor to drop everything and read the thesis without prior notice. It is also unfair if, having agreed to undertake the task at a particular time, the supervisor then delays unreasonably in giving feedback. The Thesis Committee is there to assist students with problems of this type.

The student should make every effort to present the thesis free from errors in English (spelling mistakes, grammatical errors, poor syntax). These are completely avoidable and most external examiners are diligent in picking them out. Much correcting can be avoided by a simple process of rigorous proof reading. The Graduate Studies Office will supply the latest rules and regulations about thesis format, print quality etc.

## 15. Steps for submitting a PhD thesis and arranging the *viva voce*

- 1- Student submits [‘Intention to Submit’ form](#)
- 2- Academic Registry will then send student a link to upload their thesis in pdf format.
- 3- Supervisor completes the [‘Examiner Nomination’ form](#) , including agreeing on internal examiner and Chair, usually from within the School. -
- 4- Supervisor submits the external examiner’s CV (max 2 pages) and nomination form to the DTLP. See [Appendix IV](#) for more details on the process.

**Note:** External examiners must not have collaborated or published with either the student or supervisors or be a recent graduate of Trinity (within 10 years). Examiners of research dissertations may not be appointed until at least 5 years have elapsed since the end of their previous appointment. Examiners must not have any existing relationships with Trinity members of staff or students that could call their impartiality into question. If such an individual cannot be identified, a request can be made outlining the justification for selecting the chosen external examiner. This should be submitted to the Dean of Graduate Studies via the DTLP well in advance of submitting the nomination form.

- 5- DTLP submits a signed copy of the nomination form and CV to the Graduate Studies Office
- 6- Once the Graduate Studies Office receives the examiner nomination form and CV, the thesis and paperwork are circulated to internal and external examiners.

**Note:** It is recommended that supervisors informally approach examiners in advance of the thesis being submitted to provisionally arrange a date for the *viva voce*. The examiners will receive a copy of the thesis from the Graduate Studies Office, but if there is a tight timeline between submission of the thesis and the date of the *viva*, it is recommended that a copy of the thesis also be forwarded by the supervisor directly to the examiners.

- 7- Supervisor, in conjunction with the internal examiner, arranges the *viva* date and time and books rooms as required (Lecture room for pre-*viva* talk, meeting room for the *viva*).
- 8- Supervisor should contact the relevant departmental office to arrange accommodation for the external examiner, if required.
- 9- Supervisor should contact the relevant departmental office at least 2 days in advance of the *viva* to arrange for refreshments to be provided during the *viva*.
- 10- Student will be required to give a pre-*viva* talk, which is open to Trinity staff and students.

- 11- Supervisor forwards details of the pre-*viva* talk, to include students name, project title, names of examiners and supervisor, to the relevant departmental office at least 1 week in advance. Details will then be circulated to School staff and students 1 week ahead and again 1 day ahead of the pre-*viva* talk.
- 12- The pre-*viva* talk can be chaired by the supervisor.
- 13- The *viva* should take place immediately after the talk and should be attended by the external and internal examiners and the Chair.
- 14- Information on the process involved in submitting the final PhD thesis and depositing in TARA can be found at <http://www.tara.tcd.ie/> \*
- 15- If a PhD contains confidential unpublished data, a student may submit a 'Stay of Deposition Request form' at the same time as the nomination of external examiner form. This can be found at <https://www.tcd.ie/graduatestudies/students/research/>. Students that intend to submit a stay of deposition request should also discuss this with the DTLP, who will provide a letter of support to be submitted with the application.

## 16. Examination of the Thesis

Once the thesis has been submitted to the Graduate Studies Office, the supervisor is asked to nominate the external and internal examiners. The internal examiner is usually an academic staff member of Trinity College and the external examiner is from another institution, often a UK University or Research Institute. Scientists from other European countries are sometimes appointed as external examiners.

The Dean invites the examiners to accept the thesis for examination. Only when acceptance is received will the thesis be sent. It normally takes at least 6 weeks for the external examiner to read the thesis and for the *viva voce* examination to be arranged.

The thesis is judged under three categories:

- Does it contain adequate reference to the published work in the field?
- Does it contain original (i.e. not previously published) observations worthy of publication in scientific literature?
- Is it presented in an acceptable literary style?

The examiners judge the thesis in advance and then assess the candidate's performance at *the viva voce* oral examination. They then make one of the following recommendations:

- a. The degree be awarded for the thesis as it stands,
- b. The degree be awarded for the thesis subject to minor corrections, for which two months are allowed from the time of notification,
- c. The thesis be referred for major revision and subsequent re-examination, for which six months are normally allowed from the time of notification,
- d. A lower degree be awarded if necessary, following minor corrections to the thesis
- e. The thesis be failed.

N.B. When failure, referral of a thesis or the award of a lower degree is contemplated the candidate should be informed of this possibility in advance of the *viva voce*. A thesis may only be referred for major revision once: in other words, option (c) above is not available to examiners on re-submission.

Further details of regulations and procedures can be found in the [Section II – Regulations for Higher Degrees by Research Only](#), within the College Calendar

After a successful *viva*, and following any required corrections, the student should submit a soft copy of the thesis to the Library via TARA. Trinity also requires one bound copy of the thesis for the Departmental Library. It is customary for the student to want to keep a copy too. The student should also consider presenting the supervisor with a copy as a way of thanking them for the supervision and support given.

## 17. Publication

It is wise for the student to discuss with their supervisor the probability of publishing as much material as possible from the thesis in good quality journals. The student should have learnt that not all scientific journals are equal and the higher the impact factor of the journal in which the work appears, the better for the student's career (and that of their supervisor!).

Publishing two or three papers from a thesis in good peer-reviewed journals is indicative of a successful project. If the papers are accepted for publication before the thesis is examined, the criteria of originality and publication-worthiness of the thesis material are largely met.

## 18. Demonstrating and supervision

During the course of their studies, postgraduate students may be required to act as demonstrators in undergraduate laboratory practical classes held by the School and the Biology Teaching Centre. Without the assistance of postgraduate demonstrators, undergraduate practical teaching would not

be possible.

In addition, learning how to be an instructor is an important part of a postgraduate student's training. The maximum amount of time should not exceed an average of 6 hours per week as any more would be too disruptive to the postgraduate student's own research.

Supervising a final year undergraduate student's capstone research project and/or a visiting student also provides invaluable experience and is an expected component of the peer learning environment and learning experience of the postgraduate student. It is expected that a postgraduate student will be asked to help supervise a project when they are in their second or third year of their postgraduate career; usually the project in question will relate to the postgraduate student's own work and is therefore also a valuable component of the development of their own thesis. At the end of the academic year, students can link in with their department office to obtain a certificate of demonstration experience.

## Appendix I – Support services for research students

STUDENT SUPPORT	DESCRIPTION	CONTACT
<b>Graduate Studies Office (GSO)</b>	The GSO is responsible for the administration of all Masters and Doctorate programmes in the College. Significant information for graduate students is provided here	<a href="http://www.tcd.ie/Graduate_Studies/">www.tcd.ie/Graduate_Studies/</a>
<b>Graduate Students' Union</b>	Represents postgraduate students throughout College. The Union offers assistance in academic and welfare issues and provides facilities such as lockers in the 1937 Reading Room, or a key to the Postgraduate Common Room	<a href="http://www.tcdgsu.ie">www.tcdgsu.ie</a>
<b>Postgraduate Advisory Service</b>	A confidential service available to registered postgraduate students. It offers a comprehensive range of academic, pastoral, and professional supports dedicated to enhancing the student experience	<a href="http://www.tcd.ie/seniortutor/students/postgraduate/">www.tcd.ie/seniortutor/students/postgraduate/</a>
<b>Student Learning Development (SLD)</b>	Offers a wide range of learning development opportunities including workshops on writing skills, time management, procrastination, study skills, critical thinking, thesis writing, presentation skills, viva practice and many more	<a href="https://student-learning.tcd.ie/services/awc/">https://student-learning.tcd.ie/services/awc/</a>
<b>College Health Service</b>	Provides healthcare for all students	<a href="https://www.tcd.ie/collegehealth/">https://www.tcd.ie/collegehealth/</a>
<b>Student Counselling Service</b>	Provide students with information on the support options available if experiencing either personal and/ or academic/study concerns	<a href="https://www.tcd.ie/Student_Counselling">https://www.tcd.ie/Student_Counselling</a>
<b>Disability Service</b>	Provides appropriate advice, support and information to help students with disabilities	<a href="http://www.tcd.ie/disability/">http://www.tcd.ie/disability/</a>
<b>Student 2 Student (S2S)</b>	If anything is on your mind and you'd like to share it with a good listener then a Peer Supporter would love to help	S2S (Student 2 Student) - Trinity College Dublin (tcd.ie)
<b>Nursery</b>	Provides full time care for children aged 3 months up to 4.5 years of age	<a href="https://www.tcd.ie/about/services/daynursery/">https://www.tcd.ie/about/services/daynursery/</a>
<b>Trinity Trust Travel Grants</b>	A travel grant scheme for PhD students operated by the Graduate Studies Office	Postgraduate Research Students - Graduate Studies - Trinity College Dublin (tcd.ie)
<b>Trinity Careers Service</b>	Careers Services for research students	<a href="http://www.tcd.ie/careers">www.tcd.ie/careers</a>
<b>Research Development Office</b>	The Trinity Research Development Office is a team of research funding specialists working with Trinity researchers across all disciplines and career stages to support their efforts to fund their ideas and research	<a href="https://www.tcd.ie/research/rdo/">https://www.tcd.ie/research/rdo/</a>



## Appendix II - Modules available to research students

TITLE	ECTS	AREA	DESCRIPTION	ENTRY REQUIREMENTS	HOW TO APPLY
<b>Research Integrity and Impact in an Open Scholarship Era</b>	5	Library	The concept of open scholarship has radically altered the way in which academic research operates in Europe, providing as it does both opportunities and challenges for research students. In addition, funders are increasingly demanding that researchers, including research students, must, as a pre-requisite to securing grant funding, have undertaken some training in research ethics. Finally, there are increasing pressures on students, as they conduct research, to be aware of and comply with obligations under intellectual property and data protection law and indeed to ensure the proper management of their research data. This course seeks to provide all Trinity PhD students with the tools necessary to navigate these issues as they proceed with their research.	None	PGR students are automatically enrolled. PGT will be made aware through their Course Director.
<b>Teaching and Supporting Learning as a Graduate Teaching Assistant</b>	5	Academic Practice	Exposes postgraduates to the educational discourses on teaching at university level. Each participant develops an individual teaching philosophy and explores the praxis of their teaching: the link between their espoused theory and their classroom practice.	Participants are expected to have attended the Introduction to Teaching and Supporting Learning Module and be teaching concurrent to attendance on the module.	Students must seek School approval through their supervisor. Apply by contacting academic practice@tcd.ie
<b>Planning and Managing your Research Process (PMRP)</b>	5	Student Learning Development	Provides participants with opportunities to become equipped with the skills necessary to successfully plan and manage their research and career, and thereby ensure full contribution of their knowledge and skills to the wider society	None	Students must seek School approval through their supervisor. Apply by contacting student.learning@tcd.ie. For further information, please visit student-learning.tcd.ie/

TITLE	ECTS	AREA	DESCRIPTION	ENTRY REQUIREMENTS	HOW TO APPLY
<b>Careers, Employability and Work-based Learning</b>	10	Trinity Careers Service	Developed in collaboration with industry partners, the module helps PhD students develop transferable skills that can be applied during and after their PhD. The module offers a unique opportunity for participants to undertake work-based learning to prepare them for careers in academia and/or industry.	None	For further information, please contact the Careers Service at postgrad.careers@tcd.ie or www.tcd.ie/careers
<b>Careers and Employability</b>	5	Trinity Careers Service	Supports PhD students with career planning, critical reflection and decision-making and enables them to establish networks to help support their future career.	None	For further information, please contact the Careers Service at postgrad.careers@tcd.ie or www.tcd.ie/careers
<b>Postgraduate Certificate in Statistics (Online)</b>	30	School of Computer Science & Statistics	The course provides a broad introduction to the statistical ideas and methods relevant to data gathering and analysis in a wide variety of research areas as well as business and administration.	None	Initial enquiry to pgcert.stats@tcd.ie. Applicants will also be processed via online PG application system
<b>Postgraduate Certificate in Innovation and Entrepreneurship</b>	30	Tangent	Aims to provide skills in innovation and entrepreneurship currently lacking in many Irish PhD programmes and will set graduates apart as having this uniquely transferrable skillset	TBC	Find out more and apply at: <a href="https://www.tcd.ie/tangent/education/researchers/">https://www.tcd.ie/tangent/education/researchers/</a> or email pgtangent.courses@tcd.ie.

TITLE	ECTS	AREA	DESCRIPTION	ENTRY REQUIREMENTS	HOW TO APPLY
<b>Creative Thinking</b>	10	Tangent	This module opens up new ways of thinking creatively and offers the opportunity to learn and apply frameworks and tools to help you reconsider the way in which you approach your work.	This module contributes to the Postgraduate Certificate in Innovation & Entrepreneurship.	Students must seek School approval through their supervisor. Find out more by contacting Pgtangent courses@tcd.ie
<b>Opportunity Generation and Recognition</b>	5	Tangent	Opportunity generation and recognition is the individual student's opportunity to bring the insights gained during the preceding module to bear on his/ her PhD thesis work.	This module contributes to the Postgraduate Certificate in Innovation & Entrepreneurship	Students must seek School approval through their supervisor. Find out more by contacting Pgtangent courses@tcd.ie

Please note that Tangent, Trinity Idea's Workspace offers a number of postgraduate modules, which can be taken by research students. Please visit <https://www.tcd.ie/tangent/education/postgraduate/> and email [pgtangentcourses@tcd.ie](mailto:pgtangentcourses@tcd.ie) to find out more.

## Modules not for credit

TITLE	AREA	DESCRIPTION	ENTRY REQUIREMENTS	HOW TO APPLY
<b>English for Academic Purposes</b>	School of Linguistic, Speech and Communication Studies	<a href="http://www.tcd.ie/slscs/postgraduate/english/">http://www.tcd.ie/slscs/postgraduate/english/</a>	Must be registered TCD international student (fee may apply)	clcsinfo@tcd.ie
<b>EndNote training</b>	Library	The EndNote training teams provide introductory classes on EndNote X5 for Windows. These classes cover: Setting up an EndNote Library; Populating an EndNote Library with manual references, direct export references and imported references from databases and references from the Trinity College Library Dublin Online Catalogue; Managing your EndNote Library, changing reference styles and display features, editing references; Cite While You Write - placing references from an EndNote Library into a Word document		Training schedule will be advertised via e-mail or contact the relevant Subject Librarian directly for more information.

Please visit: <https://www.tcd.ie/graduatestudies/students/research/structured-phd-modules/> to view the list of taught modules available to students on the Structured PhD.

*Appendix III – Microbiology Student Report Summary*

**MICROBIOLOGY DEPARTMENT**

**POSTGRADUATE COMMITTEE FEEDBACK FORMS**

**STUDENT REPORT SUMMARY**

After each meeting the committee members are to provide students with a summary of the outcomes of the process to the Postgraduate Student, with copies to the Departmental Office ([magoverj@tcd.ie](mailto:magoverj@tcd.ie)) within 48 hours.

**NAME OF POSTGRADUATE STUDENT:**

**STUDENT ID:**

**PROVISIONAL TITLE OF THESIS:**

**NAME OF SUPERVISOR:**

**MEMBERS ON COMMITTEE:**

**DATE OF COMMITTEE:**

Please  the appropriate boxes below:

Year 1: 6 mth  12 mth

Year 2: 18 mth  24 mth

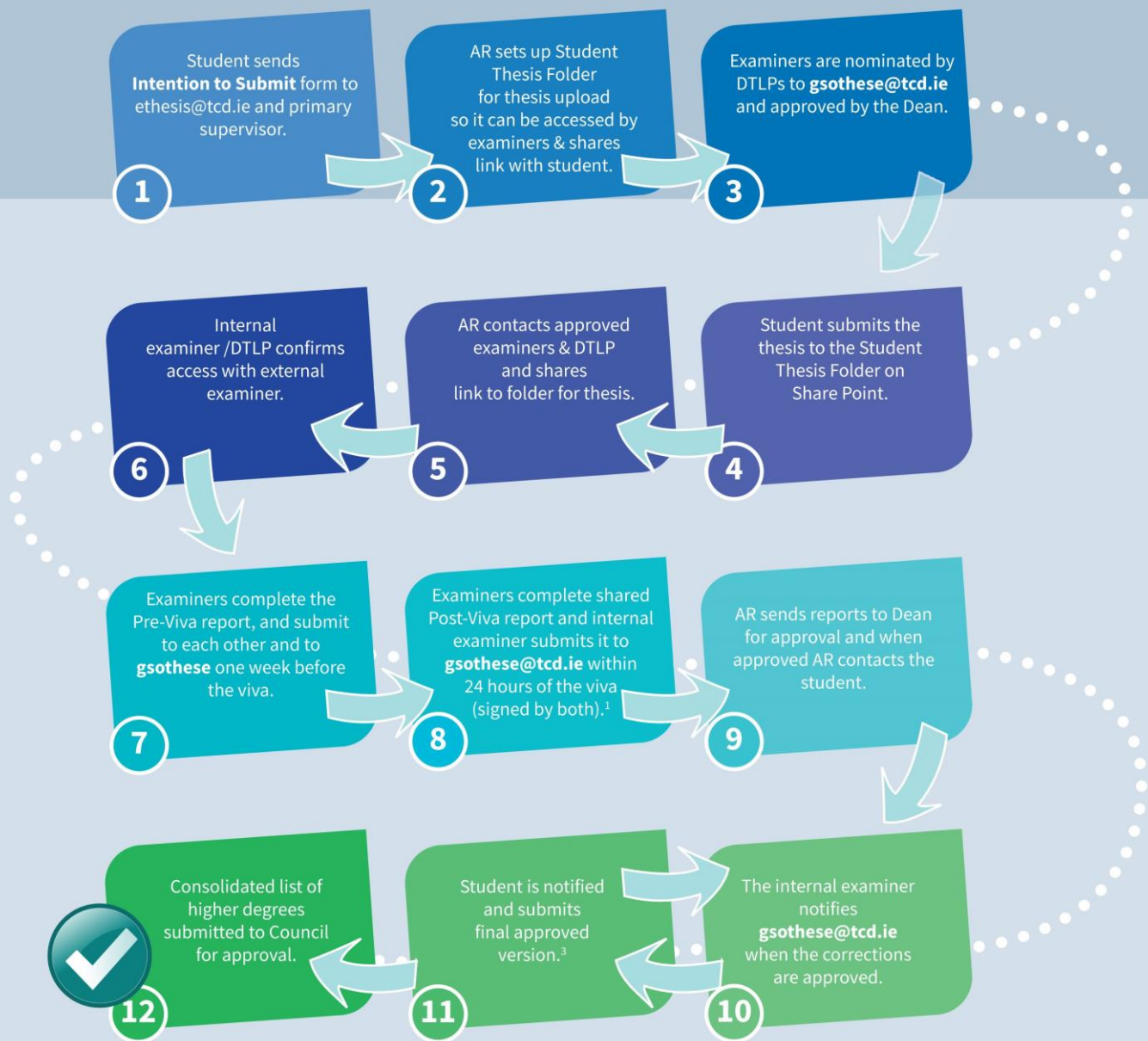
Year 3: 30 mth  36 mth

Year 4: 42 mth

Confirmation to Ph.D. Register

**Comments/Feedback:**

*Appendix IV – Thesis Submission Flow Chart*



1. Corrections required by examiners must be made before results are submitted to Council. An email is required from the internal examiner certifying that corrections have been carried out satisfactorily. Minor corrections should be completed within two months of the candidate being informed of corrections required (three months for students on the part-time register). If the examiners recommend that the thesis be referred for revision, this means that re-examination is required (though a second viva voce is not permitted) and the candidate must register and pay a revision fee.
2. Examiners may propose that the thesis be referred for major revision and subsequent re-examination, for which six months are normally allowed from the time of notification (nine months for students on the part-time register). In this case, an electronic resubmission of the thesis must take place through the Academic Registry website, examiners will submit separate forms through gsothese@tcd.ie and the examination process will not include a Viva Voce.
3. One bound copy of every thesis approved for a higher degree is lodged in the custody of the Librarian in the University Library. An electronic copy is deposited in the University's open access institutional repository.