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Appendix 1 - Core Research Skills - Natural Sciences .................................................. 15
1. Welcome to the School of Natural Sciences.

The School of Natural Sciences aims to provide a supportive environment for its postgraduate community. Over 90 students are currently studying for research degrees (M.Sc and Ph.D.) across the disciplines of Botany, Geography, Geology and Zoology. This handbook summarizes the key provisions governing degrees by research described in Part 2 of the University Calendar (Sections 1, 2, 5) which covers matters such as admission, fees, thesis submission, examinations and graduation. In case of discrepancies between this handbook and the Calendar, the provisions of the Calendar for that academic year apply. The Calendar can be downloaded from www.tcd.ie/calendar/part2.

1.1 Who’s who

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
<th>e-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of School</td>
<td>Fraser Mitchell</td>
<td><a href="mailto:FMITCHLL@tcd.ie">FMITCHLL@tcd.ie</a></td>
</tr>
<tr>
<td>Director of Teaching and Learning PG</td>
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<tr>
<td>Director of Research</td>
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<tr>
<td>Director of Teaching and Learning UG</td>
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<tr>
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<td>PG Administrator</td>
<td>Rachel Kavanagh</td>
<td><a href="mailto:SNSMAST@tcd.ie">SNSMAST@tcd.ie</a></td>
</tr>
<tr>
<td>Global Officer</td>
<td>Catherine McDonald</td>
<td><a href="mailto:MCDONAC7@tcd.ie">MCDONAC7@tcd.ie</a></td>
</tr>
<tr>
<td>Botany Postgraduate Coordinator</td>
<td>Nick Gray</td>
<td><a href="mailto:NFGRAY@tcd.ie">NFGRAY@tcd.ie</a></td>
</tr>
<tr>
<td>Geography Postgraduate Coordinator</td>
<td>Andrew McLaren</td>
<td><a href="mailto:AMCLARAN@tcd.ie">AMCLARAN@tcd.ie</a></td>
</tr>
<tr>
<td>Geology Postgraduate Coordinator</td>
<td>Catherine Coxon</td>
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</tr>
<tr>
<td>Zoology Postgraduate Coordinator</td>
<td>Ian Donohue</td>
<td><a href="mailto:DONOHUI@tcd.ie">DONOHUI@tcd.ie</a></td>
</tr>
</tbody>
</table>

For a full list of staff within each discipline please visit:

**Discipline Postgraduate Co-ordinator**

The Postgraduate Co-ordinator (PGC) is a member of the academic staff who has responsibility for postgraduate affairs in the Discipline. The Co-ordinator should be seen as a facilitator for issues facing postgraduates rather than an additional or substitute supervisor. The Co-ordinator will call meetings of the postgraduate body from time to time to discuss issues of common concern.

**Director of Teaching and Learning (Postgraduate)**

The Director of Teaching and Learning (Postgraduate) oversees post-graduate matters in the School and Chairs the Postgraduate Teaching and Learning Committee. The Director acts as an intermediary between discipline, school and college, particularly the Graduate Studies Office and the Graduate Studies Committee. The Director of Teaching and Learning (Postgraduate) is informed of student cases where difficulties arise, for example, change of supervision, extensions or withdrawals.

**Dean of Graduate Studies**

The ultimate responsibility for the welfare of postgraduate students in College lies with the Dean of Graduate Studies whose office (Graduate Studies Office) also deals with questions of emergency financial assistance, thesis submission, travel grants, satisfactory progress and appeals. Research
Students should contact the Discipline Postgraduate Co-ordinator in the first instance, who will then liaise with the Director of Teaching and Learning (postgraduate) and the Graduate Studies Office.

1.2 College Supports for students

Administrative Services
– Fees, Records, Admissions and other key student services are part of Academic Registry, based in the Biotechnology Building.
– Opening hours and further information: http://www.tcd.ie/academicregistry

Graduate Studies Office (www.tcd.ie/Graduate_Studies)
– The Graduate Studies Office is part of the Academic Registry
– The Dean of Graduate Studies, Prof. Aideen Long, is responsible for the admission, progression and examination of all postgraduate students in College and she chairs the Graduate Studies Committee.
– Office: in Academic Registry, Biotechnology Building
– FAQ: www.tcd.ie/Graduate_Studies/currentstudents/faq/index.php
– General Enquiries: academic.registry@tcd.ie, 01 896 4500
– Further contact details: www.tcd.ie/Graduate_Studies/contact_us/index.php

Postgraduate Advisory Service (www.tcd.ie/Senior_Tutor/postgraduate)
This is a confidential service available to all postgraduate students. The PAS provides a comprehensive range of academic, pastoral and professional supports dedicated to enhancing the student experience. Students can contact them for specific advice or if students would like to have a confidential meeting with the dedicated Student Support Officer. Tel: 01 896 1417; e-mail pgsupp@tcd.ie.

Student Counselling Service (www.tcd.ie/Student_Counselling)
This service, available to all students in College, provides a range of support mechanisms if students are experiencing either personal or academic difficulties. Tel. 01 896 1407; student-counselling@tcd.ie; www.tcd.ie/Student_Counselling/contact/appointments. Students requiring an appointment urgently should ask their supervisor or the Director of Teaching and Learning to contact Counselling on their behalf.

Graduate Students’ Union (www.tcdgsu.ie)
Graduate students have their own Graduate Students’ Union, which can provide assistance and advice on a range of issues.

CAPSL: Centre for Academic Practice and Student Learning (www.tcd.ie/CAPSL)
CAPSL offers a range of services and resources to enhance and support best academic practice and eLearning in college. It provides resources and services to students such as Learning Supports and the Postgraduate Skills Development Summer School.

The Careers Advisory Service (www.tcd.ie/Careers)
The CAS provides help with career planning and the job search process towards the end of the degree, providing advice on CV’s and applications, interviews, internships, and much more.
1.3 Who to contact if difficulties arise

If students experience difficulties, they should contact their supervisor(s) in the first instance. For further guidance or if the difficulties concern supervision, the Discipline Postgraduate Co-ordinator should be the first port of call. The Director of Postgraduate Teaching and Learning is then contacted if the matter cannot be resolved within the Discipline or if the matter needs to be referred to the Graduate Studies Office. Personnel in the Postgraduate Advisory Centre, Student Counselling and Graduate Students’ Union are also available to advise students.

Meetings with supervisor or the Director of Teaching and Learning which relate to any difficulty will be confidential and the content or nature of conversations will not be discussed with other parties without prior agreement. No issue of difficulty that is brought forward by a student will in any way prejudice the progress of the student to completion of their research. Research output is judged solely on its own merits.

1.4 Student – supervisor relationship

As a postgraduate research student, the primary relationship is with the member(s) of staff who will supervise(s) the thesis research. It is the supervisor(s) role to advise and help the student to define their topic, set a schedule of work and meetings and provide feedback on work. They will serve as a first port of call for queries and problems. The relationship between supervisor and research student is a critical factor in determining the quality of the postgraduate experience. Good practice leads to a relationship that may be described as mentoring on the part of the supervisor and learning on the part of the student. For a successful collaboration between student and supervisor, both parties have responsibilities. It is not possible or desirable to prescribe detailed practices which supervisors and students should follow, as these differ across discipline. However, general guidelines on research supervision should be clearly understood by all involved in postgraduate education. These are set out below.

Responsibilities of the Supervisor
- To make her/himself available for meetings, provide timely feedback to all submitted work and, through liaison within, or outside the Department, facilitate reasonable logistical and infrastructure support.
- To identify difficulties that may restrict or prevent progress of the research and, where appropriate, to bring these to the attention of the student, department staff and where necessary School personnel.
- To help the student in his/her dealings with College officialdom; the supervisor should be aware of College regulations as they affect postgraduates.
- To foster a supportive environment for research students.

Responsibilities of the Research Student
- To carry out research on a full-time basis except in exceptional and agreed circumstances research.
- To become familiar with cutting-edge issues in their subject and to develop the skills necessary for research/experimental planning, self-organisation of laboratory and field work and the technical and analytical skills required for high quality research.
- To self-monitor progress of work and to deliver any research outputs according to a timetable of targets agreed with the supervisor. The timetable should ensure that a Ph.D. is completed within four years and M.Sc. by thesis within two years.
- To deliver reports to outside agencies if these are an agreed condition of funding.
- To produce a short annual progress report (see below) in order to register for the following academic year.
- To engage in wider intellectual and learning activities of the department and School, such as attendance at seminar programmes.

Detailed information for students and staff on ‘Good research practice’ and ‘Best practice guidelines on research supervision’ is available at:
www.tcd.ie/Graduate_Studies/currentstudents/supervision/index.php.

2. Academic progression

2.1 Registration and starting research

After the completion of the on-line application (though my.tcd.ie) the Dean of Graduate Studies will send an official letter of offer by e-mail and students will be able to register on-line. There are two registration periods each year. Every graduate student entering the graduate register for the first time in September is required to attend to pick up their student card on a stated day, or days, during September. A student entering the graduate register for the first time in March should attend for same in March. Students should re-register by the same date annually.

After registration students should prepare an initial research plan jointly with their supervisor. Disciplines differ in the scope and time frame for this plan. Students should consult their supervisor on disciplinary requirements directly. Broadly speaking, this plan sets out the project objectives, research methods and facilities to be used, and the main tasks to be completed.

2.2 Entering year two and the confirmation process

Fees
Each year students will be required to provide evidence to the fees office to show how funds will be paid. A letter should be sought from the supervisor and sent to Fees office to this effect.

Progress report
Prior to registration in each subsequent year the student must complete a Progress report. The appropriate form may be downloaded from the local page of the Graduate Studies Web site:
http://www.tcd.ie/Graduate_Studies/currentstudents/admin/progressreports/index.php

The form should be signed by the supervisor and submitted (preferably by e-mail) to the School Administration office (snsmast@tcd.ie).

Confirmation
The confirmation process is of fundamental importance. It is a review processes to confirm that a student has a high probability of meeting the requirements of a higher degree and demonstrates
their ability to conduct independent research. General features of the confirmation process are outlined below.

- Confirmation meetings should be held within 18 months following initial registration. This should allow time for the student to complete an MSc thesis within the second academic year if confirmation on the PhD register is not recommended.
- A substantial report is prepared by the candidate.
- A selected Steering Committee for that student reads the report and holds an interview with the student to discuss the report.
- Comprehensive feedback is given to the student together with the decision of the committee. The decision may be:
  - Confirmation forthwith;
  - Confirmation after some minor changes have been made to the report;
  - Confirmation not recommended at this time; a new report to be written and interview held;
  - If on the PhD register, transfer to the master’s register to complete a master’s thesis;
  - Not to continue as a research postgraduate student.

The Student has the right to appeal the decision of the committee, in the first instance to the School Postgraduate Teaching and Learning Committee and then to the Dean of Graduate Studies. **Students should consult their supervisor directly to ascertain the specific requirements for the confirmation report within their discipline.**

### 2.3 Thesis submission

Full-time MSc and PhD students should submit the thesis within two and four years (respectively) of their start date. An extension may be obtained by application to the Dean of Graduate Studies by the student’s supervisor and must have a recommendation from the Director of Teaching and Learning (Postgraduate). The submission of a thesis is at the discretion of the candidate. A candidate is advised, but not required, to seek the agreement of his/her supervisor prior to submission. The essential requirements of Masters and PhD theses are set out in the Calendar Part 2 ([www.tcd.ie/calendar/part2](http://www.tcd.ie/calendar/part2)).

The submission deadline for all research theses is 30 September/31 March for students who started their degree in September 2009 or later. Students should be familiar with the thesis submission regulations ([www.tcd.ie/Graduate_Studies/currentstudents/admin/thesisregs](http://www.tcd.ie/Graduate_Studies/currentstudents/admin/thesisregs)).

The Calendar, Part 2, Section 2.16, stipulates: “A thesis submitted for a Masters degree must show evidence of rigour and discrimination, appreciation of the relationship of the subject to a wider field of knowledge, and make some contribution to knowledge/scholarship (but it is not necessary that it be worthy of publication); it must be clear, concise, well written and orderly and must be a candidate’s own work. A doctoral thesis (PhD) must show evidence of “rigour and discrimination, appreciation of the relationship of the subject to a wider field of knowledge/ scholarship, and make an appreciable, original contribution to knowledge; it should show originality in the methods used and/or conclusions drawn, and must be clear, concise, well written and orderly and must be a candidate’s own work.”
In order to be awarded the degree of Doctor of Philosophy, the candidate must demonstrate:

- A systematic comprehension of a field of study and mastery of the skills and methods of research associated with that field;
- That they have the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity, rigour and discrimination, which may involve the development of new skills, techniques, tools or materials;
- That they are capable of critical analysis, evaluation and synthesis of new and complex ideas;
- That they have made a significant contribution through original research which extends the frontiers of knowledge by developing a body of work, some of which merits publication in national or international refereed publications;
- That they can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise in a sustained and exact manner;

The suitability of the candidate is assessed by submission of a written thesis and subsequent oral examination.

2.4 Examination

Please see the provisions for examination of research theses in the Calendar, Part 2, Section 2.16 which can be found at www.tcd.ie/calendar/part2.

Following thesis submission, the Director of Teaching and Learning (Postgraduate), in consultation with the supervisor, will nominate an external examiner and an internal examiner to independently examine the thesis. A viva voce examination is a requirement for the examination of a PhD candidate. For a Masters examination a viva voce will be arranged at the request of either examiner or the Director of Teaching and Learning (Postgraduate). The internal examiner has overall responsibility for organising the viva voce examination, supported by the student’s supervisor and the School administration. The viva voce will be chaired by a senior academic nominated by the Director of Teaching and Learning (Postgraduate). The supervisor may be present at the viva voce examination purely as an observer unless the student wishes otherwise.

The purpose of the viva voce examination is:

- To verify that the thesis is the candidate’s own work;
- To establish that the candidate has mastered the required skills and techniques appropriate to this level;
- To ascertain that the candidate can evaluate, synthesise and communicate their work in a sustained and exact manner;
- To establish that the candidate appreciates the relationship of their subject to the wider field of knowledge/scholarship;
- To clarify any issues arising in relation to the written work presented in the thesis;
- To explore any deficiencies associated with the work that may mean it does not meet the criteria for admission to the degree of Doctor of Philosophy.

In the case of a Ph.D. thesis the examiners may propose that:

(i) The degree be awarded for the thesis as it stands;
(ii) The degree be awarded for the thesis subject to minor corrections;
(iii) The thesis be referred for major revision and subsequent re-examination, for which six months are normally allowed from the time of notification,
(iv) A lower degree be awarded, if necessary following minor corrections to the thesis, or
(v) The thesis be failed

In the case of a Master’s degree the examiners may propose that:
(i) The degree be awarded for the thesis as it stands;
(ii) The degree be awarded for the thesis subject to minor corrections;
(iii) The thesis be referred for major revision and subsequent re-examination;
(iv) The thesis be failed.

If examiners propose either failure or referral of an MSc thesis for revision, they must hold a viva voce examination.

Each examiner independently submits a signed report and completed decision form to the Dean of Graduate Studies after the viva voce examination. For MSc and PhD theses, minor corrections should be completed within two months of the candidate being informed of corrections required. The student should submit a complete, revised thesis to the internal examiner. The internal examiner will confirm whether corrections have been carried out satisfactorily and inform the Graduate Studies Office. When this notice has been sent, the student should submit a hard bound copy of the thesis to Graduate Studies.

Major revision of the thesis should be completed within six months of notification. A re-examination of the revised thesis is required but a second viva voce examination will not be held. A student may appeal the decision of the examiners.

2.5 Appeals:

For grounds and procedures see the Calendar, Part 2, 1.24 and 2.17. Students are entitled to have representation appropriate to the formality of the appeal hearing (e.g. a supervisor, Graduate Students’ Union representative, or Postgraduate Advisory Service advisor). (See also www.tcd.ie/Senior_Tutor/postgraduate/advisors). If students are considering an appeal, they should read the relevant Calendar sections carefully, observe the deadline for making the appeal and ensure that they have all the facts and documentation pertaining to the case. It is strongly recommended that students seek the advice of the Graduate Students’ Union before submitting the appeal.

2.6 Commencements:

The Proctors office is responsible for Commencements. For more information see: www.tcd.ie/vpcao/administration/records-awards/commencements-ceremonies.php.
2.7 Extensions and off books

Extension
In circumstances where a student loses a significant amount of productive time, for example due to illness, care duties or a bereavement, but not enough to warrant going off books, it may be possible to request compensation of lost time in the form of an extension, free of fees, at the end of regular registration. This extension (max. 6 months) should ideally be requested by the supervisor through the Director of Teaching and Learning to the Dean of Graduate Studies at the time the problem occurs.

Permission to re-register
Permission to re-register for a subsequent year beyond the maximum (MSc thesis should be completed in a maximum of 2 years/3 years if part-time and a PhD thesis in a maximum of 4 years/6 years if part-time) must sought by the supervisor(s) through the Director of Teaching and Learning and requires the support of the Head of School and the relevant Head of Department. If it becomes apparent that submission of the thesis at the end of regular registration is unfeasible, the supervisor(s) must discuss the student’s situation with the Director of Teaching and Learning as a matter of urgency see Calendar Part 2, Section 2.13 for more information.

Going ‘off books’
Normally, graduate students must pursue their course continuously. In exceptional circumstances graduate students may to go “off-books” (i.e. off-register). During this period student are not required to pay fees. Consequently they will not have a student card during this period and will not have access rights to the college library or other college facilities. Permission for a student to go off books should be requested from the Dean of Graduate Studies by the student’s supervisor and/or the Director of Teaching and Learning. The Director of Teaching and Learning should be consulted regarding the student’s situation and prospects in order to support the request, and s/he should be copied on all correspondence with the Graduate Studies Office regarding the case. See Calendar, Part 2, Sections 1.17, 2.13. See also www.tcd.ie/Graduate_Studies/staff/academicstanding/offbooks

2.8 Disciplinary issues

Plagiarism
Plagiarism is interpreted by College in Calendar Part 2, page 29, as “the act of presenting the work of others as one’s own work, without acknowledgement”. Students should familiarise themselves with the regulations regarding plagiarism. TCD considers plagiarism to be a major academic offence, subject to disciplinary action.

Misconduct
The Calendar, Part 2, Sections 5.2-25 deals with the matter of misconduct. This misconduct in relation to examinations, libraries and other facilities, services and accommodation, disruptions and noise, bullying and harassment, abuse of email facilities. Offences against College regulations are investigated by the Junior Dean, who may impose penalties, including fines. Students are entitled to representation at hearings.
3. Academic skills

3.1 Compulsory and voluntary modules for research students

From September 2013, all new research students in Trinity College must successfully complete accredited modules carrying at least 10 credits (ECTS) and no more than 30 credits in the first two years of their degree. Students may take further accredited modules in Years 3 and 4 but the total accumulated during the degree should not normally exceed 60 credits.

From September 2013, new research students to the School will be enrolled automatically in one compulsory module ‘Core Research Skills - Natural Sciences’. This module encompasses the requirements for the confirmation process and therefore students will automatically accumulate the minimum 10 credits required if they fulfil the requirements of the confirmation process after 18 months. See Section 2.2 Confirmation above (pp. 4). The module outline, requirements and assessment is given in the Appendix at the end of this Handbook.

3.2 Optional Modules

Any further modules taken above and beyond the compulsory ‘Core research skills – Natural Sciences’ must be discussed and agreed with the supervisor. Should modules within Natural Science be required to support research and training, the supervisor should consult that module coordinator directly and send details, including final mark, to the School Administration (snsmast@tcd.ie) for the students record.

A range of further skills development modules are available outside the School. For example:

- The Centre for Academic Practice and Student Learning (CAPSL) facilitates a range of workshops specifically designed to support postgraduate students, covering topics such as research skills, writing skills, self-management, presenting papers and getting published. See CAPSL for more information [www.tcd.ie/Student_Counselling/student-learning/postgraduate](http://www.tcd.ie/Student_Counselling/student-learning/postgraduate). Postgraduate training to support teaching assistants in their day-to-day teaching activities and professional development is available from: [www.tcd.ie/CAPSL/staff/teaching-assistants](http://www.tcd.ie/CAPSL/staff/teaching-assistants).
- Two courses in English for Academic Purposes are available to all students who do not have English as their first language. An intensive pre-sessional course takes place from mid-August and an in-sessional course consists of weekly classes throughout the academic year. See [www.tcd.ie/slscs/english](http://www.tcd.ie/slscs/english)
- The Innovation Academy was established to cultivate creativity and entrepreneurial thinking at postgraduate level, offering modules which build up to a Graduate Certificate in Innovation and Entrepreneurship and is available to all registered research students. See further: [www.tcd.ie/Graduate_Studies/InnovationAcademy](http://www.tcd.ie/Graduate_Studies/InnovationAcademy)
- Information Systems Services (ISS) offer a broad range of courses and training resources designed to meet the IT training needs of students. For an overview of these and of software available in TCD, see isservices.tcd.ie/training
- The Careers Advisory Service provides help with career planning and the job search process towards the end of the degree, providing advice on CVs and applications, interviews and
internships. It also delivers a module in planning and managing research and career. See www.tcd.ie/Careers
- The School of Computer Science and Statistics provides a PG Certificate in Statistics which provides a broad introduction to the statistical ideas and methods relevant to data gathering and analysis. See https://www.scss.tcd.ie/postgraduate/pgcertstats/

3.3 Post-graduate research seminars

Discipline research seminars and symposia provide students with an opportunity to communicate their research to staff and peers, particularly in the first and second years of their research. As requirements for attendance vary across disciplines discipline handbooks and Co-ordinators should be consulted regarding these activities.

4. Funding

4.1 Trinity College Postgraduate Research Studentships

A number of postgraduate awards is made annually to highly qualified candidates to enable them to undertake postgraduate studies in Trinity College. These are applied for by ticking the relevant box on the on-line application form. These studentships will cover fees (for recipients from EU and non-EU countries) and a maintenance award of €6,500 (2014-15) per annum for two years on the Masters register or three years on the Ph.D. register, subject to satisfactory progress.

Recipients must engage in up to 6 hours unpaid teaching/demonstrating per week as a condition of the award. Subsequent teaching will be paid at the standard rate. Normally, awards will be made only to applicants who were placed in the first class or the first division of the second class at a moderatorship or final examination or who obtained equivalent status at a final degree examination in a professional subject. However, graduates who are reading for the PhD degree may be eligible if they have already received a master’s degree from the University, irrespective of the class of primary degree received. Awards are tenable for one year in the first instance but may be renewed on receipt of a satisfactory progress report (see Section 2.2 of this document). Awards cannot continue beyond the second year on the Master’s and the third year on the PhD register.

4.2 Trinity College Post-Graduate Ussher Fellowships

These Fellowships aim to support and develop gifted research students. They are awarded competitively on academic merit. These highly prestigious studentships are open to graduates of any nationality for research in any branch of learning. These studentships will cover fees (for recipients from EU and non-EU countries) and a maintenance award of €13,000 (2014-15) per annum for the first two years on the Masters register and a further third year on the Ph.D. register, subject to satisfactory progress (see Section 2.2 of this document). Further guidelines can be found on the application form itself. Further details of all Trinity College post-graduate funding may be found on the Graduate Studies Office web pages.
4.3 Irish Research Council Scholarship Scheme

The Irish Research Council offers scholarships for suitably qualified (applicants must have a first or upper second class honours primary degree, or the equivalent) candidates. Further information on the IRC scholarship can be found at: http://research.ie/funding/postgraduate-funding.

4.4 Research Assistantships

Postgraduate students may be employed as research assistants by their supervisor as part of an externally funded project. Availability of these positions is dictated by the supervisor’s access to external research funds. Conditions of employment vary greatly between individual positions and therefore prospective candidates should seek advice directly from potential research supervisors.

4.5 Environmental Protection Agency

The EPA offers scholarships in the broad area of environmental research. Proposals for doctoral scholarships are invited periodically through advertised calls. For more information see www.epa.ie/researchandeducation/

4.6 Demonstrating and Teaching

Postgraduate students are paid at a standard rate per hour for demonstrating. Demonstrating and teaching opportunities should be discussed with the supervisor.

4.7 Invigilation

Invigilation is paid at a standard rate per 3 hour session and is allocated by the Examinations Office.

4.8 Emergency Financial Scheme

Only cases of extreme urgency are considered. Only students in, or about to enter, their second or subsequent years on the register will be eligible. Only in very exceptional circumstances will an allocation of funding be repeated to the same student in a further year. Application must be made on a form available from the Graduate Studies Office. See Calendar Part 2 - 8.22.

4.9 Travel Grant

This grant is allocated to graduate students for attendance at conferences related to their research through the Graduate Studies Office. All information on the Travel Grant including deadline dates are available from the local page of the Graduate Studies Web site: https://www.tcd.ie/Graduate_Studies/currentstudents/funding/travelgrants/index.php.

5. Health and Safety

All postgraduate students should make themselves familiar with the School Safety Statement and Fieldwork Safety Guide. These are available from: https://naturalscience.tcd.ie/local/ or the School office or the Safety officer within each discipline.

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</tr>
<tr>
<td>School Safety Officer</td>
<td>Terry Dunne</td>
<td><a href="mailto:TDUNNE@tcd.ie">TDUNNE@tcd.ie</a></td>
</tr>
<tr>
<td>Safety Officer - Botany</td>
<td>Siobhan McNamee</td>
<td><a href="mailto:SMCNAMEE@tcd.ie">SMCNAMEE@tcd.ie</a></td>
</tr>
<tr>
<td>Safety Officer – Geography</td>
<td>Elaine Treacy</td>
<td><a href="mailto:etreacy@tcd.ie">etreacy@tcd.ie</a></td>
</tr>
<tr>
<td>Safety Officer – Geology</td>
<td>Neil Kearney</td>
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Appendix 1 - Core Research Skills - Natural Sciences

Module Title: Core Research Skills - Natural Sciences
Module Credit: 10 ECTS
Module Co-ordinator: Supervisor

Module Descriptor: This module will prepare students, through one-to-one supervision and directed readings, for the successful development of their PhD research design. Students will be tutored by their supervisors in the refinement of their research questions, research methodology and initial literature review, culminating in: i) an oral presentation ii) the production of a Confirmation Report following guidelines as set out by the respective Discipline and iii) a confirmation interview with a designated confirmation panel. This module should normally be completed within the first 18 months of registration on the PhD register and all elements of the assessment need to be completed to a satisfactory standard to continue on the PhD register. Once all the elements of the module have been completed the College Confirmation Form, signed by the Supervisor and the Director of Teaching and Learning Postgraduate, will be submitted to the Graduate Studies Office for approval by the Dean.

Module Aims: This module aims to develop:
- Research design skills
- Presentation skills
- Scientific writing skills
- Academic debate and argumentation skills

Learning Outcomes: On successful completion of this module students should be able to:
- Design a research project
- Identify appropriate research questions and methods to investigate them
- Present research findings in an appropriately scholarly manner
- Critically discuss academic issues with specialist experts and non-specialist audiences

Assessment Details: The module will be assessed on a pass-fail basis (with the possibility for revision and resubmission of the confirmation report if required) through:
- Oral presentation of the proposed research project
- Confirmation report
- Confirmation interview

Introductory Reading: