

Imperial College
London

SCHOOL OF PUBLIC HEALTH

RESEARCH DEGREES

RESEARCH TRAINING PLAN

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LIST OF ABBREVIATIONS

TA – TEACHING ADMINISTRATOR

DPS –DIRECTOR OF POSTGRADUATE STUDIES

PSC – POSTGRADUATE STUDIES COMMITTEE

SPH – SCHOOL OF PUBLIC HEALTH

GS – Graduate School

GSPDP – GRADUATE SCHOOL PROFESSIONAL DEVELOPMENT PROGRAMME

PPDC - POSTGRADUATE PROFESSIONAL DEVELOPMENT COMMITTEE

IC – IMPERIAL COLLEGE LONDON

RESEARCH TRAINING IN THE SCHOOL OF PUBLIC HEALTH

1. Introduction

The research training provided by the School of Public Health is intended both to underpin and to complement your research project. More specifically, its purpose is to equip the student with the skills needed:

- to undertake the research project (i.e. planning, design, analyses etc);
- to write up and successfully defend the PhD thesis;
- to be competitive in the employment market, thereafter.

The skills needed to undertake a PhD are varied – and especially so in the School of Public Health (SPH) which is broad-based. Students registering for a PhD also vary substantially in their prior experience and expertise, and thus in their training needs. It also has to be recognised that formal research training can at times conflict with the needs of the PhD project – e.g. in terms of time commitment and sequence of learning. The first principle underlying research training in the School of Public Health is therefore that it should be customised to the specific needs of the student. This is achieved through the completion of a **training plan**. This plan is developed by the student in consultation with the supervisor, reviewed by the assessors and approved and monitored by the School of Public Health's Postgraduate Studies Committee (PSC) and the Graduate School (GS).

It is also important to recognise the importance of the student being able to demonstrate their acquired research skills – both to assure those concerned that they have been successfully gained, and as evidence for C.V. purposes. Research training in the School of Public Health therefore also requires **evidence of achievement**. Responsibility for compiling and presenting this evidence rests with the student. Responsibility for reviewing and assessing it lies initially with the supervisor. Overall monitoring is undertaken by the School of Public Health's PSC, which will require evidence of achievement before approving registration in its bi-annual progress reports from students and at upgrade of the student to PhD status or for those students starting from October 2010 at the Early Stage Assessment (9 month) milestone and at the Late Stage Review (18 month) milestone.

2. The training plan

The training plan is developed by the student in consultation with the supervisor(s). It is intended to define what training the student needs to undertake, how this will be achieved, and when it will be undertaken. The plan should also act as a live document that is reviewed at intervals, both to confirm what training has been satisfactorily achieved, and to identify any new training requirements.

No specific quantity of training is specified in these guidelines: how much training is needed depends on the student, his/her research area/topic, and his/her prior experience and level of skills. *As a rule of thumb, training should be sufficient to complete the research on time to a satisfactorily level, and to help prepare the student for their future career.*

There are, however, four elements of mandatory training for all students (see Section 5):

- attendance at induction courses for PhD students run by the Department or School;
- completion of the requisite training requirement from the Professional Skills Development Programme by the deadlines set by the GS.
- attendance at research seminars run by the Department;

- presentation of a research seminar by the student, on his/her research topic.

Evidence of a training plan will be required at confirmation of PhD registration. Evidence of satisfactory completion of training to that date and plans for relevant future training will be required at upgrade to PhD or for those students starting from October 2010 at the 9 month and 18 month stage of their PhD. Part of the purpose of training is also to help students understand what is required of them, design their projects, and develop the relevant practical skills. For these reasons the plan should be prepared as early as possible after enrolment.

3. Developing a research training plan

A draft training plan should be produced by the student. This should then be discussed and agreed with the supervisor(s).

Three key steps are involved in developing the research training plan:

- a review of the skills needed to undertake the research and equip the student for employment;
- an audit of the student's existing skills and expertise;
- specification of the further training needs and of the ways in which these can be met.

A template for developing the training plan, and reporting on progress, is attached as Appendix 2, and an example of a partially completed plan is shown in Appendix 3.

3.1 Review of skills needs

The first step will usually be a review of the skills needed by the student. In doing this, attention should be given to three different types/levels of skill that the student might need:

- *Generic skills* – these might include things such as knowledge about the PhD process and what is required, library and data searching, or presentation and teaching methods.
- *Discipline-specific skills* include those that relate to the discipline/broad subject area within which the work is nested. These might include topics such as research paradigms/philosophies, project design or extended writing techniques.
- *Project-specific skills* are those that relate to the particular research project. They are likely to include some laboratory or data analysis skills, data collection and health and safety issues.

3.2 Skills audit

The second step will usually be to audit the student's existing skills. In demonstrating these, the student should be able to give evidence of how and where these skills have been acquired (e.g. as part of an undergraduate or masters degree, through specialist training, through work experience). Past experience needs to be considered not only in terms of what has been done, but also the level and when it was done.

3.3 Future training needs

From the review of skills needs and the skills audit of those already attained, it should then be possible to define further training required by the student. In defining these future training needs, consideration should be given not only to what skills are required, but also:

- how they can be obtained
- when they are needed (and available)
- how will they be demonstrated and applied.

Training is available in a number of ways:

- Training in many of the *generic skills* is likely to be available centrally, through the training programme of the Graduate School. Additional generic training should be available within the Department / School of Public Health.
- *Discipline-specific skills* might be available, for example, from Masters programmes run within the School of Public Health, via seminar programmes run by the Department, or through attendance at external workshops, conferences etc.
- *Project-specific skills* are likely to be provided mainly by the supervisor(s) (or colleagues in the Department), and to some extent learned on the job.

It should be noted that some training is mandatory in the GSPDP (see section 4.1).

The timing of the training should match the needs of the student and the dynamics of his/her research programme. In most cases, the majority will need to be completed before upgrade from MPhil to PhD status or for those students starting from October 2010 at the 9 month and 18 month stage of their PhD, since it is needed to prepare the student to undertake the research project. Some, however, is better carried out later in the course of the PhD: for example, specific guidance on writing up, or on career development. The timing of training may also be conditioned by the availability of relevant courses. These factors should thus be taken into account when developing the training plan.

4. Sources of Training

Research training is available from four main sources:

- courses run by GSPDP
- courses run by the School of Public Health / Department
- external courses (both elsewhere in the College and in other institutions)
- individual training by the supervisors or other relevant staff

Students should make use of all these sources as appropriate.

4.1 GS activities and courses

The GS currently provides training sessions ([Appendix 1](#)) as well as other activities such as the annual Students' Research Symposium. Training sessions include a 3-day residential 'Research Skills Development Course' and courses from several different domains. The GSPDP has recently reviewed the Graduate School's established training programme and has agreed that **all research students must meet the following attendance requirement for GS students, at set times during their PhD/MD programme, which is-**

Students who registered on or after 1 October 2009 are required to attend the Research Skills prior to transfer of registration

The residential course plus 2 GS courses from any domain (except business, careers or completing

OR

5 GS courses from any domain

For those students enrolled after 1 October 2009, prior to the Late Stage Review

The residential course plus one other GS course from any domain (except business, careers or completing)

OR

4 courses from any domain

For those students enrolled after 28 September 2012, prior to the Early Sage Assessment

The residential course plus one other GS course from any domain

OR

4 courses from 4 different domains in the early stage zone

It is also recommended that students attend at least 2 additional workshops during the middle of their PhD.

Details of the aims and objectives for each workshop are provided on the GS web site (<http://www.3.imperial.ac.uk/graduateschool/currentstudents/professionalskillsresearch>). Students may attend as many workshops as they like (although numbers in some cases will be limited). Students must register for their choice of workshops no later than three months after the date of College registration. At the end of the PhD registration, the GS will produce a transcript for the students providing details of the workshops attended.

4.2 Training activities delivered by the School / Departments

Much of the training required by students should be provided at the School of Public Health or Departmental level. This will include:

1. Induction and core training

This is a compulsory training element for all new PhD students. Training will be run by the Department or School of Public Health as appropriate. Topics covered will include:

- Introduction to the PhD and the PhD process
- Introduction to the School of Public Health and local working practices
- IC computer services and systems
- Health and Safety Induction
- Developing a Proposal
- Quantitative Research: Introduction to descriptive, cross-sectional, cohort, case-control and randomised controlled trial designs.
- Ethics in Medicine
- Publication and research-paper writing
- How to write a PhD
- Applying for Research Funding

2. Research seminars

Attendance at Departmental research seminars is a compulsory element of training for all PhD students. Students are expected to attend **all** seminars relevant to their area of research. Students are also required to present a formal seminar on their research at upgrade to PhD or for those students starting from October 2010 a presentation at the 18-24 month stage. Presentation at other seminars may be required as appropriate (it is recommended that students give at least one research seminar each year, including one seminar during the formative part of their research – e.g. in the first 6-8 months).

Students are required to attend the annual School of Public Health Student Research Symposium and throughout their registration will present one poster and make one presentation as a minimum.

3. Research methods courses

A range of research methods training is also available through the MSc courses run in the School of Public Health. These are likely to be especially useful as a source of discipline-related training, for example on research paradigms and methods, data sources and data management, statistics and data analysis

It should also be noted that attendance on modules from taught courses (e.g. MSc programmes) is at the discretion of the course leader concerned. In many cases opportunities for attendance will be limited (e.g. due to laboratory constraints or examination arrangements). Following consultation with their supervisors, students should contact course leaders to arrange attendance. Usually, attendance will NOT include the obligation to sit examinations or undertake marked coursework.

4.3 External training courses

A wide variety of training is available external to the School of Public Health. This includes MSc's and other courses run by other Departments, training courses offered by other

universities, and short courses offered by societies, software vendors etc. In addition, great benefits are likely to be obtained by attendance at academic symposia and conferences relevant to the student's research: in general, all students are expected to attend such meetings at least once per year.

In all cases, students should ascertain and consider the costs of attending external courses and conferences, before registration. Prior, written agreement of the supervisors (and where appropriate the Head of Department and Departmental Administrator) is essential, where costs of attendance are to be charged to the Department, project budget or student's bursary.

4.4 Supervisor-based training

In most cases, the supervisor(s) will be a major (typically the dominant) source of training and skill development, especially in relation to the specific skills required to undertake the project. Much of this training will occur as part of the day-to-day practice of the research and will therefore not be subject to formal organisation or monitoring. However, students should endeavour to track and assess this training as it occurs, and reflect on their skills development as a result. Students are thus encouraged to maintain a diary or portfolio, in which evidence of such training can be compiled (e.g. in the form of notes or workbooks).

5. Monitoring, updating and approval

The training plan is not intended to be a static document. It should be updated as circumstances change, both to record new evidence of achievement, and to identify new skill needs that emerge as the project – or student's intentions and ambitions – changes. The student and the supervisor(s) should therefore review the training plan regularly, and have a formal review meeting at 6 monthly intervals.

It should be noted that it is the responsibility of the primary **supervisor** to ensure that:

- a satisfactory research plan is developed;
- prior experience of the student is properly taken into account;
- training has been completed satisfactorily.

It is the responsibility of the **student** to ensure that:

- a draft training plan is developed and agreed with the supervisor;
- agreed training plans, and updates, are transmitted to PSC, within the stated timelines as necessary;
- the training is undertaken;
- new training needs are identified;
- appropriate evidence of satisfactory achievement has been provided to the supervisor.

Evidence of satisfactory achievement will also be required by PSC at various stages, including

- at confirmation of registration (i.e. 3-4 months after initial enrolment)
- at upgrade to PhD (i.e. within 18 months of initial registration); or for those students starting from October 2010 at their 9 month and 18 month milestones
- as part of the bi-annual review of student progress.

IN ADDITION, THIS EVIDENCE IS LIKELY TO BE IMPORTANT SUPPORTING INFORMATION AS PART OF GRANT AND JOB APPLICATIONS OR INTERVIEWS. FOR THESE REASONS, STUDENTS ARE ENCOURAGED TO KEEP A PORTFOLIO OF THEIR TRAINING OUTCOMES INCLUDING ATTENDANCE SHEETS/CERTIFICATES, COPIES OF WORKSHOP MATERIALS AND COMPLETED ASSIGNMENTS.

Appendix 1

The Graduate School

Introduction by Professor Debra Humphris

Welcome to the Graduate School. At Imperial we aim for our PhD students not only to have an excellent research experience, and to make contributions to their scientific field, but also to develop other skills that will enhance their effectiveness as scientists. The Graduate School therefore provides a large number of courses to develop professional skills, enhance professional impact and ensure personal ambitions are realised and achieved. Courses range from short workshops to the *Research Skills Development* course, which is a residential course encompassing team building, research planning, communication and creativity, and also offers a great opportunity to meet fellow students from other parts of the College and establish contacts and friends that will remain with you throughout your time here. The skills developed during these courses are highly valued in the job market.

The Graduate School also runs a number of events during the year which are an opportunity to broaden your knowledge, meet other students and establish peer groups. The Graduate School will be hosting a number of lectures, as well as organising social events. I would encourage you to take part in these – there are times when it can feel lonely as a research student and these events are an opportunity to be part of the wider community of PhD students. In addition, many of the advances in science and engineering happen at the boundaries between disciplines, and meeting students from other Departments and Faculties offers opportunities to enrich your research. Please look out for the Graduate School's e-Newsletters and regularly check the Graduate School's website where such events will be advertised to you.

The Graduate School also ensures the quality of the PhD programmes at Imperial, and makes sure that you are appropriately supported to maximise the chance of success. Most of this important work happens behind the scenes, but there are opportunities for you to get involved, through the Graduate Students' Union (GSU) who not only provide representation for the student body but also run their own programme of social events.

I hope that you will enjoy your postgraduate research here at Imperial, and I wish you well in your time with us.



Professor Debra Humphris
Vice Provost (Education)

Attendance requirement

The programme is an integral part of your research degree and you should use it to support your development. It exists in order to ensure that you receive generic transferable skills training whilst at Imperial, enhancing your employability.

Students enrolled before 1 October 2009, prior to transfer of registration are required to complete the residential course plus 2 GS courses from any domain (except business, careers or completing **OR 5** GS courses from any domain

Students who enrolled after 1 October 2009 are expected to complete the residential course plus one other GS course from any domain (except business, careers OR 4 courses from any domain, prior to the Late Stage Review

Students enrolled after 28 September 2012, must complete The residential course plus one other GS course from any domain OR 4 courses from 4 different domains in the early stage zone prior to the Early Sage Assessment. It is also recommended that students attend at least 2 additional workshops during the middle of their PhD.

The GS attendance requirement is deliberately kept low to give you the freedom to take responsibility for your own training and development. Once you have completed your attendance requirement you are welcome, and encouraged, to attend any further workshops that interest you.

The Professional Skills Development Programme is also designed for MD(Res) students and for those studying for MRes degrees. Students on these programmes are free to select courses they feel would enhance and develop their skills. As this is different to studying for a PhD there is no minimum attendance requirement, although your academic Department will normally require you to attend some workshops.

Where to find information on the courses

Course information can be found on the GS website. This is a password protected intranet site containing course outlines, materials and a timetable of workshops. Dates of workshops are also given on each of the course description pages.

How to book

Students can download a booking form from the **How to Book** page on the GS Website. Bookings cannot be processed without your CID number, registration date and supervisor's name.

Places are allocated on a first come first served basis and the course venue will be sent in a confirmation email.

Cancellation charges

There is a charge for late cancellations and non-attendance of courses. For our short courses, we ask for at least three working days' notice of cancellation, so that places can be offered to other students. Cancellation periods for residential and longer courses can vary. Please see the GS website for full details of the cancellation policy and charges.

GS Summer Research Symposium

The GS annual summer research symposium is one of the highlights of the GSPDP calendar and will take place in July 2014. Research students present posters at this event, and there are prizes for the best poster presentations. Further details of the event and the poster selection process will be available on the GS website in the spring term.

Contact Us

Registry, Level 3, Sherfield Building, South Kensington

Email: graduate.school@imperial.ac.uk

Website: www3.imperial.ac.uk/graduateschool/currentstudents/professionalskillsresearch

APPENDIX 3. AN EXAMPLE OF A (PARTIALLY COMPLETED) RESEARCH TRAINING PLAN

Name of student Alicia Cervatina	Supervisor 1 Dr. Susan Stobold	Supervisor 2 Dr. Jan de Witt	Department EBS	Date of registration October 2011
Project title: East meets west – explaining the health effects of German reunification				Date: 15/12/13
Skills required	Source	Timetable	Progress/completion	Evidence of achievement
Introduction to the PhD	School of Public Health research workshop	November 2011	November 15 th 2011	Attendance
General issues and methods in epidemiology	Departmental or School of Public Health seminars	Throughout PhD	Four seminars attended to date	
Library and web searching	School of Public Health research workshop	December 2011	December 9th	Attendance
Project design	Supervisor	Winter 2011		
Introductory statistics	GSPDP	January 2012		
Questionnaire design	Departmental or School of Public Health workshop	February-March 2012		
Advanced statistics	Modern Epidemiology MSc (6 sessions)	Spring 2012		
Ethics	GSPDP	Spring 2012		
Presentation skills	GSPDP	Summer 2012		
Database management	Supervisor	Spring-summer 2012		
German language	Evening classes	Winter 2001- Summer 2013	6 sessions attended to date	
Writing up a PhD	School of Public Health research workshop	November 2013		
Teaching	PGCE (Warwick University)	Already completed	October 2012	PGCE (pass)
Publication	School of Public Health research workshop	December 2013		