Research Training Programme
and Personal Development Planning
For Postgraduate and Postdoctoral Researchers
2016-2017
Course Index

Advanced Medical Statistics p14
An Introduction to Omics p10
Applied Statistics for Postgraduate Students p8
Beginning your Research SCI p24
Bio-imaging Skills for Postgraduate Students p11
Business Simulation Challenge p22
Business Beyond the Bottom Line p20
Commercialising your Research p20
Communicating Research p26
Consultancy Skills p22
Critical Appraisal of the Medical Literature p8
Critical appraisal of the scientific literature. (How to Publish, Evaluate and Critical Appraise a Scientific Article) p8
Design and Analysis of Comparative Experiments. p10
Discovering and managing information at PhD level (Information management and research skills) p8
Doing Clinical Research p10
Effective Writing 1 SCI p26
Effective Writing 2 SCI p24
Emergency First Aid at Work p10
Enhance your presentations by animated graphs in Excel. p11
Ethical issues and procedures for non-clinical research involving human subjects p9
Ethical, legal and practical approaches to in vivo animal work p15
Ethics Approval for People Working with Human Subjects p10
Fieldwork Safety p10
Finance - what you need to know to help you get a job! p10
Formulating a research question: true, new and important! p10
Further Excel: Graphs and Charts p10
Further Excel: Datalists, Pivot Tables and More p10
Generic Professional Skills p10
Getting published in science p10
Getting ready for the workplace: CV writing skills and job applications p10
Glasgow Science Festival Internships p10
GRAD on the Island p10
GRADschool p10
How to Write a Research Grant Application p10
How do I engage the public with my research? p10
How to write your data management plan p10
Induction for New Research Students p10
Introduction to Access p10
Introduction to Excel p10
Introduction to Gnu/Linux using Debian Distribution p10
Introduction to Powerpoint p10
Introduction to SPSS p10
Insights to Industry p10
Intellectual Property p10
Welcome

Welcome to the 2016-2017 edition of the Research Training Programme brochure. Training in research skills is a key element in the development of all postgraduate students and postdoctoral researchers. It is becoming widely recognised that future employers, in a wide range of sectors, expect staff to possess a range of generic and transferable skills. To help you develop these skills, we encourage you to work with your supervisors to identify courses for you to attend and to participate in other skills training as part of your personal development.

College of Medical, Veterinary and Life Sciences Graduate School

The Graduate School is committed to providing high-quality training to help you develop as a researcher. In addition to the training in specific research techniques you will receive as part of your own project, the Graduate School provides and supports training in a wide range of transferable skills. In the Research Training Programme we aim to provide training in specialist knowledge and skills which will enhance your personal and professional development. We welcome suggestions for possible additions to the Programme from users of this brochure.

Every new postgraduate research student must attend the induction course held at the beginning of the academic year – see page 8 for details. These sessions are repeated for students who begin later in the academic year and details of these will be published on the Graduate School’s web site at: www.glasgow.ac.uk/colleges/mvls/graduateschool

At the start of their studies postgraduate students should discuss with their supervisor what skills they need to develop during the first year and beyond. You should self-evaluate your training needs using a Training Needs Assessment (TNA) and in consultation with the Vitae Researcher Development Document. You should meet with your supervisor prior to the end of month 2 to review the completed Training Needs Assessment self-evaluation form, agree a plan for training provision and complete the Researcher Development Log.

We would encourage you to consult this brochure and the Graduate School website regularly to ensure you take advantage of the range of training opportunities that are on offer. Additional training opportunities may be added over the forthcoming year and you should receive email alerts in advance. Postgraduate students are advised to discuss their skills acquisition and future training needs with their supervisor on a regular basis and to amend and update their Personal Development Plan. A record of the courses attended and the skills training activities undertaken should be recorded in the Researcher Development Log at the end of this brochure.

Postgraduate students will be required to submit their Researcher Development Log as part of the Progress Review and it will be reviewed by the student’s Review Panel and Postgraduate Convenor. www.gla.ac.uk/colleges/mvls/graduateschool/currentstudents/postgraduateannualreviewprocess/
Engagement, influence and impact
The knowledge and skills to work with others and ensure the wider impact of research.

Knowledge and intellectual abilities
The knowledge, intellectual abilities and techniques to do research.

Domain D

Domain A

Domain C
Research governance and organisation
The knowledge of the standards, requirements and professionalism to do research.

Personal effectiveness
The personal qualities and approach to be an effective researcher.

Domain B

Professional and career development
Domain B

Professional and career development

Self-management (B2)

Financial, funding and resources (C3)

Research management (C2)

Professional conduct (C1)

Creativity (A3)

Cognitive abilities (A2)

Knowledge base (A1)

Working with others (D1)

Communication and dissemination (D2)

Engagement and impact (D3)
Researcher Development Framework (RDF)

The Research Training Programme is based on the requirements set out in the Researcher Development Framework (RDF) which is the key reference for the development of researchers' skills and attributes. The RDF is a national document which sets out the knowledge, behaviours and attributes of effective and highly skilled researchers as they progress through their career. It is structured into four domains, which encompass what researchers need to know to do research, how to be effective in their approach when working with others, and in contributing to the wider environment. Within each of the domains are three sub-domains and associated descriptors, which describe different aspects of being a researcher. Courses available in the Research Training Programme are mapped against the RDF with a descriptor number next to each course. You are encouraged to use the RDF to plan your professional development and to update your Researcher Development Log.

It is recommended by the Research Councils that postgraduate students take part in the equivalent of 10 days of transferable skills training each year. However, this does not mean that you have to attend 10 days’ worth of formal courses. A wide range of activities can count towards your skills training and examples of such opportunities are listed within the brochure. You should discuss the appropriate RDF Skills domain with your supervisor.

The complete version of the RDF, with a full description of what each domain covers, can be found on the Vitae website: www.vitae.ac.uk/rdf and Appendix A of this brochure contains an abridged version.

Key Domains of the Researcher Development Framework

(A) Knowledge and Intellectual Abilities
1. Knowledge base
2. Cognitive abilities
3. Creativity

(B) Personal Effectiveness
1. Personal qualities
2. Self-management
3. Professional and career development

(C) Research Governance and Organisation
1. Professional conduct
2. Research management
3. Finance, funding and resources

(D) Engagement, Influence and Impact
1. Working with others
2. Communication and dissemination
3. Engagement and impact

See Appendix 1 for a fuller description of the RDF domains

Postgraduate Student Credit System

Courses listed in this brochure have a defined number of credits attached. Credits can also be attained through attending courses organised by Research & Development, IT Services and by undertaking additional training opportunities (see page 27). Courses organised by the Graduate School will have credits applied once registers have been returned to the Graduate School office. All students attending must ensure that they sign the class register.

PLEASE NOTE adding credits is a manual process and may take up to one month.

Full time students undertaking a PhD should gain 20 credits and aim for at least 12 in the first year. All other postgraduate degrees and part-time students should gain credits pro-rata.

Course Booking for Credit Allocation

When attending courses, it is ESSENTIAL that you sign the register provided. If not, the Graduate School will not be aware that you were present and the credit for that course will not be recorded on your academic transcript.

Courses can be booked through MyCampus unless otherwise stated in the Course Description.

Search to enrol for courses using MyCampus (under Self Service - Student Centre/ Enrollment / Add by Search / Course Career: PG Research). When in the ‘Search for Classes’ page under the ‘Course Catalogue’ section, please add the 4 digit number at the end of the course code, for example, RSDA6006 (remove letters and add numbers only). Select ‘Postgraduate Research’ from the drop down menu – select ‘Search’. Select your preferred course and date which will be added to ‘your choices’. Make sure that you click on the ‘my choices’ tab then select the courses from the table view and then click on ‘Enrol’ to complete enrolment on the course/workshop.
You will receive an automated email within 24 hours, confirming that you have booked a place on this course. Course venues will be entered onto MyCampus but may be subject to change between the point of booking and the date of the course. You will receive an automated reminder, on the Friday prior to the event, letting you know the venue of the course.

If this is a multi-day course, you must be available to attend all days.

For details on how to book IT Services please refer to the IT Services web page www.glasgow.ac.uk/training

External Credits

The Application form for Skills Training Award should be used by you if you wish to apply to your Postgraduate Convenor to have credits allocated to your Skills Training Record for participation in training activities which do not appear in the College Skills Training Programme. The form is located at: www.gla.ac.uk/colleges/mvls/graduateschool/currentstudents/importantforms/

Please consult the Researcher Development Framework (RDF) to identify in which skills domains and sub-domains the activity you undertook provided training.

Applications for external credits must be approved and signed by your Postgraduate Convenor prior to submission by email to: mvls-gradschool@glasgow.ac.uk with ‘Skills Training Credits’ in the subject line. All training activities should be agreed with your supervisor. Please note that the credit value for any course or activity is not intended to reflect the duration of the course. You should aim to gain skills and credits across all four domains outlined in the RDF.

A certificate of your attendance or other documentary evidence must accompany this application. (It is permitted to submit a programme timetable, event flyer etc as proof of attendance where formal proof of registration is not available)

Credits for Courses Listed in the College Skills Training Programme

All students attending RTP courses offered within the College Skills Training Programme must ensure that they sign the class register which will be available at each RTP course. The register is returned by the course presenter to the MVLS Graduate School Office and credits are added to the MyCampus records of all students who signed the class register. Please note that the addition of credits is a manual process and may take up to a month to appear on your record.

Cancellations

If you need to cancel your place, please give as much notice as possible so we can ensure your place is allocated to another student. Exceptional cases/illnesses and instructor emergency require (at minimum) 48hrs notice. Failure to provide this will result in your records showing non-attendance and your institute/school/supervisor will be informed as part of the progress review and will result in one credit being deducted from your running total. You can cancel your place on a course via MyCampus. In case of illness or emergency you should register this via the ‘My Absence’ function on MyCampus. This will then be recorded as an absence on your student record.

Course Full?

If the course is full, please join the waiting list so that we know there is high demand. We always try to accommodate demand (e.g. by putting on additional courses based on waiting list numbers). If you are based somewhere other than Glasgow and only attend the main campus for certain parts of the year, please get in touch and we’ll see if we can help you book onto courses during that specific period.

Courses are made available through the Graduate School, Researcher Development, IT and Career Services and are listed overleaf. If additional courses or specific training opportunities become available, the Graduate School will aim to alert you well in advance by email.
Introductory Courses

The Graduate School organise a compulsory Induction Course for all year 1 students during the first week of the session. The Induction Course is a full day event, with sessions provided by College staff and staff from other University services. A detailed programme is published separately on the MVLS Graduate School’s web page. The Induction Course is repeated later in the session for students who begin after the start of the academic year.

Graduate School Courses

How to Book:

All courses provided as part of the Research and Development Training Programme can be booked online via MyCampus unless otherwise stated in the course description.

1. Search to enrol for courses using MyCampus (under Self Service - Student Centre / Enrollment / Add by Search / Course Career: PG Research)
2. When in the ‘Search for Classes’ page under the ‘Course Catalogue’ section, please add the 4 digit number at the end of the course code, for example, RSDA6006 (remove letters and add numbers only). Select ‘Postgraduate Research’ from the drop down menu - select ‘Search’.
3. Select your preferred course and date which will be added to ‘your choices’
4. Make sure that you click on the ‘my choices’ tab then select the courses from the table view and then click on ‘Enrol’ to complete enrolment on the course/workshop.

You will receive an automated email within 24 hours, confirming that you have booked a place on this course. Course venues will be entered onto MyCampus but may be subject to change between the point of booking and the date of the course. You will receive an automated reminder, on the Friday prior to the event, letting you know the venue of the course.

Discovering and Managing Information at PhD Level

Course Code: RSDA6096P
RDF Domain: A1.3, A1.4
Speaker: Mrs Heather Worlledge-Andrew, University Library
Target Group: All new students (1 session for each student)
Credit: 1
Description: Students who attend this seminar will understand the methods for and importance of:
• Creating both subject and author/article citation alerts on different systems
• Utilising advanced techniques to find relevant, high quality information in their research field in a systematic way
• Reviewing publications of their associated research group
• Being aware of the Open Access model and the implications for publishing their thesis
• Finding previous thesis submitted by PGRs within their research institute
• Understand the systems associated with measuring the impact of research (metrics and alt-metrics)
• Gaining an overview of developing their own researcher profile (ORCID, Researcher-ID, Google Scholar)

Attendees will be expected to participate in discussions about their own research topics and prior experiences. They are encouraged to bring their own wifi connectable device (laptop, tablet).

Critical Appraisal of the Medical Literature

Course Code: RSDA6007
RDF Domain: A2.1, A2.2, A2.3, A2.4
Speaker: Prof Kate O’Donnell, Institute of Health and Wellbeing
Target Group: Year 1
Credit: 2
Description: This session will provide an introduction to the process of critically appraising the medical literature. It is primarily targeted at those undertaking research involving patients or human populations including clinical trials. The session will help you identify strengths and weaknesses of study designs for different clinical questions and discuss sources of potential bias.

Applied Statistics for Postgraduate Students

Course Code: RSDA6002
RDF Domain: A1.1, A1.6, A2.1
Speaker: Prof Marian Scott, School of Mathematics and Statistics
Target Group: Year 1
Credit: 2
Description: This course may be taken by any postgraduate research student but is aimed mainly at those students in year 1. It consists of 3, three-hour sessions that build on any statistical background students have from their undergraduate courses. Students are expected to attend all 3 sessions in a block. The 3 sessions cover Session 1: designing your experiment, what factors do you need to consider? Session 2: Introduction to statistical modelling, including linear models and Session 3: More advanced statistical modelling.
What is R?

Course code: RSDA6013
RDF Domain: A1.1, A1.2
Speaker: Professor Adrian W Bowman, School of Mathematics and Statistics
Target Group: Research students and postdoctoral researchers who have introductory-level knowledge of R. This includes students who have attended the ‘What is R?’ session.
Credit: 2
Description: R is an open source statistical computing system which has facilities for a very wide range of statistical methods but which is also a very flexible programming environment. There is now a very large user community and a considerable collection of additional libraries available for specialist topics. This short course aims to provide a broad introduction to the system. The topics covered will include:

(i) Facilities for standard analyses,
(ii) Graphics,
(iii) Linear models,
(iv) Multivariate methods.

The course will be based around a small number of case studies and there will be an opportunity for practical use of the system. The very wide range of facilities offered by the R environment will be outlined.

More Advanced Use of R

Course code: RSDA6014
RDF Domain: A1.1, A1.2
Speaker: Professor Adrian W Bowman, School of Mathematics and Statistics
Target Group: Research students and postdoctoral researchers who have introductory-level knowledge of R. This includes students who have attended the ‘What is R?’ session.
Credit: 2
Description: The aim of the session is to explore some of the more advanced aspects of R as a statistical computing environment.

Participants will be invited to express interest in particular topics and this will have an influence on those chosen as the focus of the session. Possibilities include random effect models, flexible regression models, spatial analysis and the use of R as a programming environment. There may be an opportunity for participants to bring their own data, depending on the size of the group.

Programming for Biologists

Course code: RSDA6006
Speaker: Dr Eddie Fisher, Computing Service
Target Group: All postgraduate students and postdoctoral researchers
Credit: 1
Description: This course, run over three half-days, provides a brief introduction to computer programming with emphasis on biological data analysis. It is aimed at those with little or no prior programming experience, but a general level of computing proficiency will be required. On successful completion of this course participants will have:

- Learned to write their own simple programs and to use/adapt programs written by others.
- Insight into when programming should be used in analysing biological data.
- Experience of the fundamentals of programming: variables, loops, control statements and working with files.
- Extracted and processed information from spreadsheet files, i.e. Excel.
- Understanding of some example programs working with DNA sequences.
- Knowledge of other available resources and how to progress further.

Ethical issues and procedures for non-clinical research involving human subjects

Course code: RSDA616P
RDF Domain: C1.1, C1.2
Speaker: Chair of the Ethics Committee
Target Group: All postgraduate students undertaking non-clinical research on humans, including those who may be working on a project where ethical approval has already been granted to their academic supervisor
Credit: 2
Description: This workshop will inform students about the ethical issues that need to be considered when conducting non-clinical research on human subjects. Both the national legislation and local University guidelines governing experiments on humans will be reviewed. The procedures for seeking ethical approval from the MVLSC College Ethics Committee for Non-Clinical Research Involving Human Subjects will also be explained. Please note that this session will not deal with clinical research or research involving NHS patients, since these fall under the separate remit of the NHS National Research Ethics Service. It will also not deal with the ethics of experiments with animals. This workshop is mandatory for all postgraduate students undertaking non-clinical research on humans, including those who may be working on a project where ethical approval has already been granted to their academic supervisor.

Getting Ready for the Workplace:

CV Writing Skills and Job Applications

Course code: RSDB6058P
RDF Domain: B1.4-1.6, B3.1-3.3
Speaker: Mr Nairn Scobie
Target Group: Final Year Students
Credit: 1
Description: The course will allow students to see what information should be put forward in a curriculum vitae. We will examine the student’s achievements to date and consider how these can be inserted into a CV. We will look at examples of good and bad CV’s and consider how an employer would interpret these. We will consider current job opportunities associated with their area of research and how to go about applying for these posts. This will involve filling in application forms, tailoring the CV accordingly and discussing interview techniques.

Radiation Protection

RDF Domain: A1.1, A1.2, C1.1
Speaker: Staff from the Radiation Protection Service and SEPA
Target Group: Compulsory for students using radiation sources
Credit: 2
Description: It is essential that any researcher working with radioactive sources is aware of the risks and how to work safely with them in a laboratory environment. This is a one-day course covering all aspects of radiation risk/protection and will be assessed.

TO BOOK A PLACE ON THIS COURSE PLEASE CONTACT THE RADIATION PROTECTION SERVICE DIRECTLY - Moira.Bryden@glasgow.ac.uk or +44 (0)141 330 4471. For further details please go to www.glasgow.ac.uk/services/radiationprotection/radiationprotectioncourse

Notes:
1. A short course such as this cannot make you an expert programmer. Rather, the course aims to give you a taster of programming tools available for biology and how programming can be useful to you in your research.
2. Your feedback on how the course might be improved will be much appreciated.
3. STUDENTS MUST ATTEND ALL THREE DAYS.
### Emergency First Aid at Work

**Course code:** RSDC6005  
**RDF Domain:** C1.1  
**Speaker:** Stewart First Aid  
**Target Group:** All research students and postdoctoral researchers  
**Credit:** 2  
**Description:** This six hour course by trainers from the University’s accredited first aid training provider, Stewart First Aid Training, will deal with the essentials of emergency first aid at work. This course is compulsory for all field workers. Students attend on one date only. Numbers are strictly limited, therefore, booking is essential.  

Please note that if you book, but then fail to attend, you will be charged £25.

### Fieldwork Safety

**Course code:** RSDA6004  
**RDF Domain:** A1.1, A1.2, C1.1  
**Speaker:** Mr David Fettes, Institute of Biodiversity, Animal Health and Comparative Medicine  
**Target Group:** Compulsory for all research students undertaking field work.  
**Credit:** 2  
**Description:** This course is compulsory for all field workers. The course will cover a range of topics and is designed to ensure that students are aware of the dangers associated with field work and how they can minimise these risks.

### Ethics Approval for People Working with Human Subjects

**Course code:** RSDC6006  
**RDF Domain:** C1.2, C1.3  
**Speaker:** Dr Judith Godden  
**Target Group:** Year 1  
**Credit:** 1  
**Description:** This workshop will advise students on the procedure for applying for permission to undertake experiments involving humans, particularly where they are also patients. It will review the background to regulations governing such experimentation. This session is not suitable for those working with animals. It is important that researchers understand how to make an ethics application and, therefore, this course remains mandatory for those who have already obtained ethics approval since, in some cases, the application may not have been made directly by the student.

### Design and Analysis of Comparative Experiments

**Course code:** RSDA6099P  
**RDF Domain:** A1  
**Speaker:** Professor Anna Amtmann  
**Target Group:** 2-4  
**Credit:** 2  
**Description:** Comparative experiments are at the heart of hypothesis-driven research and yet they are surprisingly difficult to design and to analyse. Often it is only during write-up that design flaws become apparent, making it difficult to draw meaningful conclusions. This course explores in a systematic manner, the challenges of designing and analysing comparative experiments and their practical solutions. In four half-day sessions we will address the following issues: 1. How to formulate questions and hypotheses; 2. How to design meaningful controls; 3. How to choose the appropriate statistical analysis methods. 4. How to manage large data sets. Each session will comprise a lecture followed by facilitated group work. The students will have the opportunity to apply the knowledge gained to their own research project and/or critically assess published studies, and to discuss specific problems with peers and staff. Note that this is not a statistics course although considerations of how the data can and should be analysed will be an important part.

### Writing your Thesis

**Course Code:** RSDA 6010  
**RDF Domain:** A1.3, A1.4, A3.2, A3.4, A3.5, C1.6, D2.1, D2.2  
**Speaker:** Prof Gwyn Gould, Institute of Molecular Cell and Systems Biology  
**Target Group:** Mandatory for students in the final year of a PhD.  
**Credit:** 2  
**Description:** Few people are naturally gifted writers and the task of marshalling the work of three years into a coherent and cogent text is daunting. There are numerous elephant traps along the way: boredom; lost notes; other more interesting projects, as well as more serious difficulties. If you are going to complete your thesis successfully (and on time), it is important to have a strategy to help you cope. This lecture will discuss how to get started, how to plan your thesis and discuss style, content and approaches to your write up. Criteria for a PhD/MSc/MD/DDS; when to write thesis; alternative ways of undertaking the writing process; importance of a coherent theme; sections and what to include; issues about citing the literature and presentation. Minimum number of students is 10. This course is best suited for those who are about to start, or have recently begun, to write their thesis. It should not be taken by first year students.
Intellectual Property
Course Code: RSDC 6008
RDF Domain: C1.4
Speaker: Prof Tom Guthrie, School of Law
Target Group: All research students and postdoctoral researchers.
Credit: 1
Description: An introduction to how the law protects what you write and your ideas. How far can other people use what you have written (and vice versa)? When is information protected as confidential? What sort of ideas, inventions and new products can be protected and how is this done? What effects might this have on research?

Bio-imaging Skills for Postgraduate Students
Course Code: RSDA6124P
RDF Domain: A1, A2, A3
Speaker: Dr Craig Daly, School of Life Sciences
Credit: 1
Description: The course differs from both the undergraduate [BIOL 4190] and postgraduate [BIOL5261] bio-imaging courses in which all image data, for processing and analysis, is provided. The ‘skills’ course involves data collection and hands-on experience of confocal laser scanning microscopy. Participants are invited to bring their own biological samples or they can use pre-prepared slides. The course covers an introduction to image analysis, use of ImageJ software and data collection using confocal laser scanning microscopy. Participants will process, analyze and 3D-render their own data sets. Topics covered include: digital image processing, morphometric measurement, co-localisation, multiple fluorescent probes, digital deconvolution, 3D visualisation and animation. This introductory course will not cover scripting or macro creation within ImageJ. The course runs for 4.5 days.

Enhance your Presentations by Animated Graphs in Excel
Course Code: RSDD6056P
RDF Domain: Lead Domain is D. Includes D2, D3, A2, A3
Speaker: Dr Bernard Franq, Robertson Centre for Biostatistics
Credit: 1
Description: Giving a talk in a conference is challenging. The time is usually limited to less than 20 minutes and the speaker usually wants to show as much material as possible. The graphs enable the visualization of the data or the results on one slide. However, the audience will have usually less than 1 minute to understand the plot before the speaker moves to the next slide. This course will explain how to enhance the communication by means of animated graphs. This course is an introduction on the creation of animated graphs in Excel (with VBA). Excel is easy to use, powerful and a flexible software. A variety of animated graphs will be shown and taught. The students will receive datasets and plots. The instructor will explain how to animate these plots in Excel while the students will practice in parallel. After this course, the students will be able to create their own animated graphs. This will heighten participant engagement during a presentation, and lead to a better understanding of the material and a better dissemination of knowledge. The following parts will be discussed:
- Why an animated graph? (30 min)
- How to create an animated graph in Excel? (5 H)
- Which tools to which audience? (30 min)
- How to incorporate short videos and animations into your presentation? (30 min)

Getting Published in Science
Course Code: RSDD6057P
RDF Domain: Lead Domain D2. Includes A1, A2, A3, B1, C1
Speaker: Dr Hiliary Hamnett, School of Medicine, Dentistry and Nursing
Credit: 1
Description: This course is aimed at PhD students who are writing papers for peer-reviewed journals as first author. The emphasis of the course will be on exploring the publishing process as a whole – from choosing a journal to writing a first draft, then persuading the editor to publish it. This course is most suitable for those working in the chemical and biological sciences. Students drafting an existing paper, or with sufficient data for a publication will benefit the most from this course. This course is divided into three sessions:
1) Publishing metrics and choosing a journal
This session is for those who are looking to gain the knowledge and skills to decide where their research fits in and choose an appropriate journal. This session explains what publishing metrics are and how to use them to your advantage. It will also cover how to monitor who is reading and citing your work.
2) Writing your paper
This session is for anyone who wants to know more about writing a science journal paper. It includes some tips for starting your first draft, and also hints for more experienced authors looking to polish their papers and avoid common mistakes. The session covers: getting started, what goes in each section, effective figures and tables, language and style, technical hints and tips, and some good and not-so-good examples.
3) Getting your paper past the editor
This session aims to lift the lid on the editorial process and includes hints and tips for preparing and submitting your paper, persuading editors to publish it, surviving the peer-review process, and developing long-term publishing strategies.

Screening from Early Stage Drug Discovery to Academic Specialty
Course Code: RSDA6119
RDF Domain: Lead Domain is A. Includes B1, B3, C1, D1, D2, D3
Speaker: Dr Eric Kalkman, Institute of Infection, Immunity & Inflammation
Credit: 1
Description: The lecture will begin discussing how modern pharmaceutical companies performed drug discovery for several decades with High Throughput Screening, screening millions of compounds to find a few potential drug candidates. This model is no longer economically viable, due to high attrition rates in clinical trials, product recalls and the patent cliff most companies face. I will talk students through a classical drug discovery project pipeline from early stage drug discovery to clinical trials, briefly discussing why drug discovery is such a challenging field (e.g. a lot of valid drugs were taken off the market due to affecting the heart’s hERG channel). I will touch on legislation and public perception.

Going back to the drug-discovery pipeline, I will explain that the pharmaceutical industry has had to become much more transparent and is now more eager than ever to collaborate with academia, in particular in early stage drug discovery, to keep drug discovery economically viable for them. I will then discuss the main types of screening utilized today, High Throughput Screening (plate reader-based) and High Content Screening (a type of phenotypic screening based on automated microscopy) and explain the advantage of using cell-based HCS over e.g. protein-ligand interaction assays to find drug candidates.

T-tests and ANOVA for the Analysis of Laboratory Data (primarily)
Course Code: RSDA6125P
RDF Domain: Lead Domain is A. Includes A1, A2, C1 D2
Speaker: Dr John McClure, Institute of Cardiovascular & Medical Sciences
Credit: 1
Description: Students doing laboratory based projects often have to analyse their data using t-tests and ANOVA. This course will introduce how to:
- decide when t-tests and ANOVA should be considered;
- check these methods’ assumptions;
- analyse and interpret data with these methods (using Minitab).
It will also briefly consider alternatives to t-tests and ANOVA. Whilst the course is aimed primarily at those doing laboratory
Three Minute Thesis Competition
Can you present your research in just 3 minutes?
Heats and Final to take place in March 2017

The exercise develops academic, presentation, and research communication skills and supports the development of research students’ capacity to effectively explain their research to a non-specialist audience. The Glasgow competition takes place in Spring, with researchers participating from subject areas across the University. The winner of the finals will win a £1000 research travel grant, as well as the opportunity to take part in a national 3MT competition. Dates, further information and films from the previous competitions are available here:

www.gla.ac.uk/services/rsio/researcherdevelopment/threeminutethesiscompetition/

Participants will receive 2 skills training credits.
based projects, it is open to anyone who is likely to need to use t-tests or ANOVA.

Transferrable Skill for MVLS PhD Students
Course Code: RSDA6118
RDF Domain: Lead Domain is A. Includes B1, B3, C1, D1, D2, D3
Speaker: Dr Eirini Kaiserli and Dr Catherine Berry, Institute of Molecular, Cell and Systems Biology
Credit: 1 for each individual section
Description: 7 separate 2 hour sections which may be attended individually.
27 January 2017 - Transferrable Skill for MVLS PhD Students - Session 1: Introduction, Short talks on PhD Project Aims.
24 February 2017 - Transferrable Skill for MVLS PhD Students - Session 2: Scientific Writing
31 March 2017 - Transferrable Skill for MVLS PhD Students - Session 3: Scientific Writing Workshop
28 April 2017 - Transferrable Skill for MVLS PhD Students - Session 4: Career Opportunities (outwith academia)
26 May 2017 - Transferrable Skill for MVLS PhD Students - Session 5: Career Opportunities (within academia)
23 June 2017 - Transferrable Skill for MVLS PhD Students - Session 6: Science Communication
28 July 2017 - Transferrable Skill for MVLS PhD Students - Session 7: Troubleshooting/Past Phd student experiences

Preparing for the Viva
Course Code: RSDA6011
RDF Domain: A3.4, A3.5, D2.1
Speaker: Prof Mhairi Macrae, Institute of Neuroscience & Psychology
Target Group: Mandatory for students in the final year of a PhD.
Credit: 2
Description: Single two hour session: talk and discussion. This workshop will cover the regulations governing submission and the timescale for the examination procedure. It will include discussion on the structure of the viva and the type of questions which are likely to be asked. The workshop is designed for students who intend to submit within the next 6 months. The role of the convenor and the internal and external examiners will also be explained.

Qualitative Research
Course Code: RSDA6041
RDF Domain: A1.1, A1.6, A2.1
Speaker: Dr Jacqueline Reilly, Institute of Health and Wellbeing
Target Group1-4
Credit: 1
Description: This workshop will introduce students to the basic principles of qualitative research for the analysis of interview and focus group data. It will provide advice on when to use this approach, and a short guide to how to carry out a qualitative study. The session will be illustrated with relevant examples. The course is suitable for any student who feels that their research may include interviews or focus groups with individuals and/or groups.

Formulating a research question: true, new and important!
Course Code: RSDA6097P
RDF Domain: A1, A2, A3, B1
Speaker: Dr Antony Workman
Target Group: Students embarking on a post-graduate experimental biomedical research project
Credit: 1
Description: Lecture overview: Single, 1.5-2 hr
This lecture serves as an introduction, for students embarking on a post-graduate experimental biomedical research project, to the process of formulating a suitable research question. It is intended to help such students identify a scientific question to address, problem to solve, or hypothesis to test, that should maximise their chances of ultimately producing data that are valid “(true)” and conclusive, sufficiently novel (“new”), and having sufficient impact (“important”) as to be worthy of publication in a high quality peer-reviewed scientific journal. The specific and general learning objectives are given below. This process should ideally be undertaken by students before starting their project, but would also be useful to students who have just begun. The lecture draws on examples from experimental cardiac electrophysiology - the area of expertise of the lecturer - but the principles involved and the learning objectives should apply to other fields of experimental biomedical research.

Specific learning objectives for “Formulating a research question: true, new and important!”
- To learn steps typically involved in generating and modifying a research question.
- To understand the importance of generating valid, conclusive, novel and important data.
- To encourage curiosity-led reading and experimental technique
- To reiterate how to conduct a literature search and review.
- To emphasise the value of hypothesis-driven research.
- To introduce practical aspects of experimental design and execution.
- To gain basic understanding of cardiac electrophysiology and recording techniques.

General learning objectives for “Formulating a research question: true, new and important!”
- To learn through curiosity and to develop the ability to critically evaluate evidence.
- To encourage self-directed learning.
- To develop familiarity with the scientific method.
- To encourage problem-solving behaviour.
- To provide the student with an opportunity to explore a biomedical research topic in depth.
- To develop generic skills such as report writing and data handling.
Advanced Medical Statistics  
RDF Domain: A.1.2, A.1.3, A.2.1  
Speaker: Dr Caroline Haig  
Target Group: 1-4  
Credit: 1  
Description: To provide introductions to the following topics: multiple linear regression; concepts of risk, odds and hazard; logistic regression; and analysis of survival data (very general introduction only). The course will be illustrated using SPSS and is designed for those with at least a basic knowledge of statistics. For more information and booking please contact Dorothy. Donald@glasgow.ac.uk

How to Write a Research Grant Application  
Course Code: RSDC 6007  
RDF Domain: C3.1  
Speaker: Prof Gwyn Gould, Institute of Molecular Cell and Systems Biology  
Target Group: This course should be attended by postdoctoral workers or final year PhD students interested in writing fellowship applications. It is not suitable for first or second year PhD students.  
Credit: 1  
Description: Writing your first research grant application can be a difficult proposition. In this presentation advice on funding opportunities including fellowships, and the ‘do’s and ‘don’ts’ of grant writing shall be explained. I will attempt to de-mystify the process of grant writing, discuss the important criteria for a good grant and outline some common pitfalls often encountered. I will also cover aspects of how grants are assessed and how grant committees work. The course aims to maximise the quality of applications and thereby give applicants the best possible chance of success. Minimum number of attendees 8.

Successful Writing  
Course Code: RSDA 6009  
RDF Domain: A1.3, A1.4, A1.6, A3.2, A3.4, A3.5, C1.6, D2.1, D2.2  
Speaker: Prof Marek Dominiczak, School of Medicine and Ms Kathy McFall  
Target Group: Years 1 and 2  
Credit: 2  
Description: Good writing is good for your career. It makes your thesis better, increases your chances of publishing in high impact journals and improves your image in the scientific community. The aim of this workshop is to make you aware how important writing is for a researcher and give you specific advice to improve your writing. Firstly we will discuss the structure of a research paper. We will then focus on attributes of good writing and good style and give you several useful tips which will make your writing better. We will also discuss how to create informative figures and tables.

Introduction to the Philosophy of Science  
Course Code: RSDA 6044  
RDF Domain: A2.3, A3.1-3.5  
Speaker: Prof Neil Spurway, School of Life Sciences  
Target Group: All postgraduate students and postdoctoral researchers  
Credit: 1  
Description: The course will outline thinking by philosophers of science, principally from the last 50-60 years, about what makes for good research; the relations between theory and observation, and what happens when one theory displaces another. It will be illustrated by frequent references to the history of the physical and more particularly the biological, sciences. Two other topics which will be touched upon are mind as a product of natural selection, and how to consider science and religion non-confrontationally. Note that you must attend both days to be counted as present!

Statistics - Linear Regression  
Course Code: RSDA 6036  
RDF Domain: A1.1, A1.6, A2.1  
Speaker: Dr Jim Lewsey, Reader in Medical Statistics  
Target Group: PGT and PGR students  
Credit: 1  
Description: This course introduces the methods of correlation and multiple linear regression for use in medical, veterinary and life sciences research. The focus is on detailing when these methods are appropriate and interpreting SPSS and R Software output (correlation coefficients, linear regression coefficients, confidence intervals, p-values).

Statistics - Logistic Regression  
Course Code: RSDA 6095P  
RDF Domain: A1.1, A1.6, A2.1  
Speaker: Dr Jim Lewsey, Reader in Medical Statistics  
Target Group: PGT and PGR students  
Credit: 1  
Description: This course introduces the method of multiple logistic regression for use in medical, veterinary and life sciences research. The focus is on detailing when this method is appropriate and interpreting SPSS and R Software output (odds ratios, confidence intervals, p-values, Hosmer-Leme show test, c-statistic).
Statistics - Survival Analysis
Course Code: RSDA 6038
RDF Domain: A1.1, A1.6, A2.1
Speaker: Dr Jim Lewsey, Reader in Medical Statistics
Target Group: PGT and PGR students
Credit: 1
Description: This course introduces the methods of Kaplan-Meier and Cox regression for use in medical, veterinary and life sciences research. The focus is on detailing when these methods are appropriate and interpreting SPSS and R Software output (Kaplan-Meier survival estimates, log-rank test, Hazard Ratios, confidence intervals, p-values).

Statistics - Diagnostic Testing and Comparing Methods of Measurement
Course Code: RSDA 6039
RDF Domain: A1.1, A1.6, A2.1
Speaker: Dr John D McClure
Target Group: PGT and PGR students
Credit: 1
Description: The session will cover:
- Bland-Altman Plots and 95% Limits of Agreement. It will also briefly mention inter-rater agreement methods, but will not cover these in detail.

Research Governance
Course Code: RSDA 6001
RDF Domain: C1.2, C1.3
Speaker: Dr Debra Stuart, Research Governance Officer
Target Group: Any student working with within the NHS or performing research on humans
Credit: 1
Description: The session will cover:
1. General Research Governance issues when working with human subjects
2. Managing human tissue samples
3. How to obtain ethics (NHS and University)
4. How to obtain a research passport.

The Role of Statistics in Clinical Trials
Course Code: RSDA 6047
RDF Domain: A1.1, A1.6, A2.1
Speaker: Dr Rachael MacIsaac (VISTA Statistician)
Target Group: All postgraduate students and postdoctoral researchers
Credit: 1
Description: This course will provide an introduction to different aspects of clinical trials with particular importance placed upon the explanation and interpretation of statistical techniques. Aiming to give a broad understanding of clinical trials, we will look at different types of study from the traditional RCT to cluster randomised trials and observational studies. We will cover power calculations, methods of randomisation, parallel group design and single arm studies. Using examples from different areas of research we will look at the statistical techniques employed in the different types of study and interpretation of the results provided.

Ethical, legal and practical approaches to in vivo animal work
Course Code: RSDA 6046
RDF Domain: A1.3, C1.2, C1.3 and C1.7
Speaker: Carolyn Thomson, Institute of Infection, Immunity & Inflammation
Target Group: Masters and first year PhD students; but anybody who wishes to develop their animal dissection skills can attend this course.
Credit: 1
Description: This course will provide students with a brief overview of the ethical concerns and legalities of using animals for research purposes. This will be followed by a guided dissection from experienced research staff. During this practical session students will be taught basic rodent anatomy and the skills necessary to perform dissections in order to obtain precise results. This course will focus on the University’s three broad categories of research; Immunology, Cardiovascular and Neuroscience to suit individual needs.
These skills are fundamental to many areas of biomedical research and are increasingly sought after by academic institutes and pharmaceutical research companies.
Each student should bring their own dissection equipment:
1 pair of scissors, 2 pairs of pointed watch maker’s style forceps and 1 larger pair of forceps. Dissection boards and lamps will be provided.
How can I engage the public with my research?

Sharing your research with the public can be rewarding and can have a real impact on everyone involved. It can inspire you and make you think about your research in a completely different way. It can highlight the benefits and importance of research with the public. And it can be fun!

The University of Glasgow has signed up to the Manifesto for Public Engagement issued by the National Co-ordinating Centre for Public Engagement (http://www.publicengagement.ac.uk/). This is a commitment by the University to contribute to society through public engagement.

Here are some ways in which you can develop your skills as a communicator and engage the public in Glasgow with your own research.

Glasgow Café Scientifique
Discuss your research with the public over a glass of wine or cup of coffee. Held on the first Monday every month in the Victorian Bar at the Tron Theatre. Contact Mandy MacLean (mandy.maclean@glasgow.ac.uk) www.cafescientifique.org

Glasgow Science Festival
Further information on the Glasgow Science Festival and how to get involved at: www.glasgowsciencefestival.org.uk/events/sciencefestival/getinvolved/

Glasgow Science Centre
Glasgow Science Centre’s Meet the Expert programme provides the opportunity for experts to engage with the public by carrying out activities for a family audience, explore new concepts and discoveries with visitors. More information on how to get involved at: www.glasgowsciencecentre.org/support-us/meet-the-expert.html

Glasgow Bright Club
‘Bright Club Glasgow: an academic comedy cocktail for your entertainment and enlightenment!’

Described by its founders as “the thinking person’s variety night”, Bright Club is an opportunity for academics to communicate their research like they’ve never done before: via stand up comedy! This novel form of public engagement is a chance to meet new people, hone your communication skills and reach out to a whole new audience.

Researchers from ALL disciplines are welcome. Previous participants have included scientists, philosophers, archaeologists, engineers, historians… even mathematicians. Performers will receive full training prior to the night, with rehearsals and ample advice from a professional comedian.

Further information on public engagement:
The Manifesto for Public Engagement booklet: www.publicengagement.ac.uk/why-does-it-matter/manifesto
How do I engage the public with my research?

Course Code: RSDD 6009  
RDF Domain: D2, D3.2, D3.5  
Speaker: Dr Sonya Taylor and Dr Tansy Hammarton, Institute of Infection, Immunity and Inflammation  
Target Group: All postgraduate students and postdoctoral researchers  
Credit: 3  
Description: An important part of any public engagement work is to think about people with whom you want to engage. A common answer to this question is the ‘public’ – but who are the public and how can you ensure that you engage with them effectively? This 4 part course, held over 2 days, will help you think through how to ensure your activity is appropriate and relevant to people with whom you hope to engage.

Part 1: Aimed at anyone with an interest in finding out more about public engagement activities. This session will describe a wide range of types of public engagement and explain why it is important to get involved in these outreach activities. It will provide an introduction to explaining your research to the general public, and will allow participants to explore how they can get involved in outreach from planning through to set-up and delivery of an activity. Importantly, for anyone who does not feel confident about speaking directly to the general public, this session is designed to show you the many other ways in which you can get involved in public engagement; and for those wanting to play an active outreach role, this session will introduce you to the detailed planning required. 1 credit

Part 2: Aimed at anyone wanting to deliver public engagement activities. It is desirable, although not essential, to have attended part 1 prior to this course. This session will get you to think about your audience and how to tailor your activity and language appropriately. It will also cover mocking up your own experiments for the general public, and will allow you to try out some pre-tested outreach experiments to gain inspiration. 1 credit

Part 3: Additional skills for public engagement: using storytelling to interest your audience, writing press releases, using social media to promote/advertise your events and news, giving public lectures and how to evaluate your events. It is desirable but not essential to have attended part 1 and/or part 2. 1 credit

Part 4: Signing up as a Science and Engineering Ambassador. A chance to have any remaining questions answered and to fill out the forms required for registering as an SEA. Not essential to have attended parts 1-3, but if you’re new to public engagement, we recommend you attend at least one of the other parts, to find out what you’re letting yourself in for! There are no credits for attending this session.

Glasgow Science Festival Internships

RDF Domain: D1.1, D1.2, D2.1, D2.2, D2.3, D3.2, D3.5  
Speaker: Dr Deborah McNeill, Glasgow Science Festival Director  
Target Group: All postgraduate students  
Credit: 3  
Description: This extended training opportunity is designed for those who wish to gain public engagement skills and communicate their own research to the public at the Glasgow Science Festival in 2017. Effective communication of highly specialised research to the general public can be challenging and the internship will help you develop your own activity. Selected students will undertake a short internship with Glasgow Science Festival staff. Working in small groups, you will develop content suitable for a family audience and deliver this during one of the GSF family weekends in June 2017.

The internship will entail six short sessions working with festival staff, with additional self-led group work. This course will run from February to June. This will involve:

- Effective group working
- Techniques to support the translation of scientific terminology to age and audience-appropriate language
- Exploration of the different forms of public engagement activities
- Development and delivery of your own activity for the festival
- Project and budget planning

There are only 16 places available and you must be able to make a commitment to the entire course and participate in the Glasgow Science Festival in June 2017. It is preferred that applicants should have undertaken the introductory session on public engagement above.
Helping enterprising students start up and run their own business

Self-employment is an option which more and more of our students are considering, whether that be starting their own business, working freelance or becoming a sole trader. Here at the University of Glasgow, we are keen to provide the help and support our enterprising and entrepreneurial students need in order to turn their dreams into reality, for instance, by helping them test out their ideas through 1-2-1 mentoring and competitions, or assisting during the actual business start-up process and beyond.

Support available includes:

- Practical business start-up workshops
- Assistance with legal structures and set-up
- 1-2-1 business advice clinics
- Mentoring Programme
- Help with business and financial planning
- Support in perfecting your business plan
- Advice on pitching
- Advice on how to secure funding
- Connections to professional advisers including external business support agencies, solicitors, accountants and IP specialists
- Guidance through the process of launching your business
- Ongoing support when your venture is up and running

In addition we also:

- Run internal competitions
- Support students entering external competitions
- Run regular networking events and workshops
- Provide opportunities to meet alumni who have successfully established their own business and hear from those students currently undertaking that challenge at our monthly Business Club meetings

Many of our students, both undergraduate and postgraduate, have started up and run their own ventures whilst studying here. They have come from a variety of disciplines from across the University and often we see students who only have a vague idea for a business that they may want to pursue in future. With the right help and guidance, Student Enterprise could bring out the entrepreneur in you.

For more information or to make an appointment please contact our Enterprise Manager, Marion Anderson: marion.anderson@glasgow.ac.uk  www.glasgow.ac.uk/studententerprise
Presenting with Impact
RDF Domain: D1.9, D2.1, D3.1
Speaker: Voice Business
RSDD: 6002
Target Group: All postgraduate students and postdoctoral researchers
Description: This half day course is designed to help you transform your presentation skills and build your confidence. At the first half-day session, you will learn the secrets of techniques borrowed from the theatre and adapted to suit the kind of presentation you give as a researcher. Become a more compelling communicator through learning strategies to control nerves and body language; how to make the best use of your voice and how to pace your delivery.

Three Minute Thesis Competition
RDF Domain: D1.9, D2.1, D3.1
Speaker: All postgraduate students
RSDD: 6017
Target Group: Postgraduate students
Description: The 3 minute thesis is an academic competition developed by The University of Queensland, Australia for research students. Participants present their research verbally in just 3 minutes and with related contents on one PowerPoint slide. Heats will take place in each of the four Colleges, with three participants going forward to participate in a Grand Final, in Spring. Further information on how to participate is available at the following website:
http://www.gla.ac.uk/services/rsio/researcherdevelopment/threeminutethesiscompetition/

Voice of Young Science
Taking Place in November 2016
DF Domain: D2, D3.2, D3.5
Speaker: Voice of Young Science – presenters from academia and the media
RSDD: 6004
Target Group: PhD or Postdoctoral researchers from the sciences
Description: The VoYS Standing up for Science media workshops encourage early career researchers to get their voices heard in public debates about science. During the workshops we discuss concerns about speaking to the public and confront misconceptions about how the media works. The workshops consist of three sessions:

- Science and the media: drawing on the experiences of our panel of scientists, the participants discuss their fears and the barriers to communicating science to the public, including what happens when research announcements go wrong, statistics are manipulated, risk factors are distorted, or the discussions become polarised.
- What journalists are looking for: a panel of journalists discuss how they approach stories, balancing the need for news and entertainment with reporting science, and the portrayal of science including polarising debates and misrepresenting the facts.
- Standing up for science – the nuts and bolts: the audience considers what is there for early career researchers to play for? Not yet the leaders in the field what can they do to encourage good science and evidence in the public domain?
Media Training
Running in October 2016
RDF Domain: D2, D3.2, D3.5
Speaker: Andrew Cassell
RSDC: 6007
Target Group: PhD or Postdoctoral researchers from the sciences
Description: This practical workshop is run in a small group setting, by media professionals with extensive experience in TV and radio broadcasting. It is an intensive half-day course with emphasis on practical participation. You will be filmed and given feedback on your presentation technique.

Key learning outcomes:
- A general knowledge of the media landscape in Scotland
- An awareness of strategies for tailoring messages for specific media outputs
- Methods for preparing for media interviews (focusing on TV and radio)
- Development of confidence and skills required to deliver key messages as part of media exposure

This is an advanced media skills course and therefore we expect that participants will have previous experience of giving presentations and public engagement. As we anticipate high demand, priority will be given to researchers who can identify how they will implement the learning from the course, in a specific context in the next 12 months.

Part time Researcher Conference
RDF Domain: Various (dependent on selected workshops)
Speaker: Various
Target Group: Part time research students and staff
Description: The Vitae Scotland and Northern Ireland Hub, in partnership with universities across the region, organise an annual Part-Time Researcher Conference. This event provides researchers with the opportunity to network with colleagues from diverse research areas and universities; develop professional skills; consider future careers; and receive valuable advice, support and information from service providers at universities across Scotland and Northern Ireland.

The main activities of the day will be a series of participatory workshops on training and development themes, delivered by specialist HEI staff tailored to part-time researcher needs.

An extended networking lunch with information stands from a wide range of relevant providers and a networking reception will complete the day. www.vitae.ac.uk

Project Management
Speaker: Run by MY Consultants
RSDC: 6001
Target Group: PhD researchers from any subject area or year of study
Description: This one day course provides a basic introduction to project management techniques that will help you in planning your PhD.

- Developing a clear and detailed scope for your research project
- Managing yourself and your time
- Monitoring progress and managing risks in your PhD
- Managing interaction with your supervisor and other project partners

Project Management – Your PhD and Beyond
Speaker: Run by MY Consultants
RSDC: 6002
Target Group: PhD researchers from any subject area or year of study
Description: Project Management is a great skill to have whether you are planning to stay in academic research or pursue a different career. This two day workshop explores how organisations manage projects including how they:

- Define success for a project
- Develop clear and detailed scopes for projects
- Manage the interactions with the stakeholders of the projects
- Set up management structures to ensure that the project team works well together
- Develop time-lines for complex projects which involve many staff and contractors
- Build robust budgets for projects and then manage against these budgets
- Manage uncertainty in the project process
- Monitor progress of the project
- Evaluate project success at the end of the project

This workshop will guide you through these processes using a case study and group work to practice the tools and methods which are introduced. It will also give you the opportunity to consider how you can apply these skills to your current research and present the skills which you have developed on your PhD for jobs which require project management skills.

Participants must be able to attend both days. This course covers the same material as in the one day course but in greater depth. Please do not attend both the one day course and the two day course. This course has options for accreditation through the Chartered Management Institute, on successful completion of a short reflective assessment.

Myers Briggs Personality Type Indicator Workshops
RDF Domain: B1.4, B1.5, B2.2, B3.1, D1.2
Speaker: Katrina Gardner, Careers Service
Target Group: All research students and postdoctoral researchers
Description: This workshop offers an in-depth exploration of your personality to enhance your understanding of yourself, your motivations, your natural strengths and your potential areas for growth. It looks at how you prefer to interact with others, take in information and use that to make decisions and form opinions. It can be useful in helping you with career planning and also in understanding the ways that other people (perhaps supervisors or colleagues) prefer to work or operate. These workshops should be booked directly with Katrina Gardner
Katrina.gardner@glasgow.ac.uk
Research Ventures

RDF Domain: A3.3, C1.4, C2.3, C3.1, D1.2, D1.9, D3.2
Speaker: Various
RSDD: 6006
Target Group: PhD researchers and postdoctoral researchers from any subject area or year of study
Description: This two day course is aimed at researchers with an interest in:
- Knowledge exchange, research impact and winning funding for academic career progression
- Exploring the commercial possibilities of a research idea and how your research might attract industrial funding or be used in setting up a spin-out company
- Future employment in industry
- Collaboration with researchers from other disciplines

The course is a mixture of practical activities and case studies. It includes talks from experts and entrepreneurs with inspiring stories and first hand experience of bringing exciting ideas to life.

Our speakers will share their knowledge of:
- Creative thinking and what being enterprising means to them
- Business planning and different models of research commercialisation (including spin-outs and licensing)
- Protecting your ideas and intellectual property
- Compelling and convincing communication, that helps you to bring others on board and win funding
- How to inspire and motivate others, whether you see yourself as working in business or building a research group
- Sources of support, advice and funding and how to deal with set-backs
- How to develop a network.

Insights to Industry

RDF Domain: A3.3, C1.4, C2.3, C3.1, D1.2, D1.9, D3.2
Speaker: Various
RSDD: 6005
Target Group: PhD researchers
Description: This innovative programme gives research students from all backgrounds the opportunity to sharpen their commercial awareness and gain hands-on experience while working on a real industrial problem, presented by a company in Scotland.

Further information on the company, project, dates and how to book will be available during the academic year. You can read about previous projects here:

www.glasgow.ac.uk/students/researcherdevelopment/coursesandevents/enterprisingacademicprogramme/insightstoindustry

Postgraduate Leadership Programme

RDF Domain: C2.2, B1.1-1.7, B2.1-2.4, B3.1-3.5, D1.1-1.9
Speaker: Elizabeth Adams, Robin Henderson and guest lecturers
RSDD: 6001
Target Group: Any subject area, this is intended for researchers who are at least 6 months into their PhD
Description: Although you might not feel you are in the position of a leader at the moment, you may be using leadership skills as part of your role as a researcher. This could mean mentoring others or managing relationships and projects with collaborators, sponsors or your supervisor. Many of you will also aspire to be leaders in your future career and will be seeking to understand how to motivate and inspire others, confront difficult problems, ask the right questions and come up with creative solutions.

Throughout the Postgraduate Leadership Programme, you will hear from experienced tutors and speakers from a range of backgrounds on what they think it takes to be a successful leader and influence others towards a common goal or purpose. A key part of the programme is the consideration of your natural strengths and weaknesses, personal values and the style of leadership that suits you best.

You will also work with other researchers on a relevant project to put some of the ideas from the workshops into practice. Successful completion of the programme assessment will enable participants to gain accreditation from the Chartered Management Institute.

You must be available to attend all four sessions, plus a short induction, as well as participating in the group project (involving 2-3hr work between sessions). We recognise this is a large time commitment and therefore it should be discussed with your supervisor. You will also be asked to provide an email from your supervisor confirming that you have discussed your plans to attend this course.

GRADschool

Running in June 2017
RDF Domain: A2.3-2.5, A3.3, B1.1-1.6, B2.1-2.5, B3.1-3.5, C2.2, D1.1-1.8, D2.1, D2.2, D3.2-3.6
Speaker: Various
RSDD: 6006
Target Group: Any subject area, this is intended for researchers who are at least 12 months into their PhD
Description: A GRADschool gives you time to step back from your PhD, think about the skills you have developed and how they will help you to take that next step in your career. You'll have the chance to meet researchers from other universities or subjects and work on key skills such as communication, networking, team working and time management.

The GRADschool is aimed at 2nd and 3rd year PhD researchers and has a strong focus on career development. As well as having a Careers Adviser on hand, our team of experienced tutors are from a range of backgrounds and will be able to talk to you about how their research background helped to get them where they are now.

You must be able to attend all three days.

In 2012, we also introduced ‘GRAD on the Island’ which takes the GRADschool concept to a remote corner of the Isle of Mull. This is a residential course and (with no access to wi-fi) it is a real opportunity to take time out of the PhD and concentrate on thinking about the next steps.
Consultancy Skills

**RDF Domain:** A2.5, B3.1, D3.2  
**Speaker:** Robin Henderson  
**RSD6002**  
**Target Group:** All postgraduate students and postdoctoral researchers  
**Description:** This course will consider the skills required in consultancy and how these can be applied to both your PhD and your future career. You will learn simple processes and techniques to become a more effective problem solver and will have the chance to practice these throughout the day. This course will be focusing on technical consulting and will also look briefly at what a career in consulting might entail or how you can carry out consultancy as an academic. Our course tutor has a background in both academia and consulting.

**Themes of the programme:**

- Personal and career development collaboration and partnership working
- Engaging the community with your research
- Creative thinking

Based in old quarrymen’s cottages in a remote bay, 20min walk from the nearest road, the accommodation is basic and you will be sharing a room with the other participants (single sex dorms). We think this is part of what makes the trip unique and the time spent in an unfamiliar environment, away from ordinary routines, will give you space for fresh thinking on your PhD, yourself and your career.

Attendance is free as we will cover all costs of your accommodation, food and transport. The event will involve some outdoor activities. We hope it will not rain but it would be wise to bring a waterproof jacket/trousers - just in case. Don’t worry if you don’t have any - we can lend you some.

Business Simulation Challenge

**Running in November 2016**  
**DF Domain:** A2.5, A3.3, A3.4 B3.1, D1, D3.3  
**Speaker:** Various  
**RSDD:** TBC  
**Target:** Group: Researchers from any subject area or year of study  
**Description:** Think you can make the BIG decisions? Lead a team to VICTORY? Can you keep cool under EXTREME PRESSURE? Undergraduate and Postgraduate Teams from each of the four Colleges in the University will compete to see who can run the most profitable business. The simulation will allow you to make strategic decisions on a 4 year cycle business IN ONE DAY! The winners will be the ones who make the most money. It is fun, fast, exciting and challenging and the winning team will receive a fantastic prize.

Finance - what you need to know to help you get a job!

**RDF Domain:** A2.5, B3.1, C3, D3.3  
**Speaker:** Robin Henderson  
**RSD6004**  
**Target:** Group: Researchers from any subject area or year of study  
**Description:** If you are currently studying for a PhD and are looking to get a job in a business environment understanding how companies organise and manage their finances will help you within the interview process (especially if there is an assessment centre) and throughout your career.

This 1/2 day workshop aims to cut through the jargon to help you:

- Understand financial terminology
- Be able to able to read an organisation’s accounts and make sense of them
- Understand how companies manage their cash and appraise projects.

Risky Business

**RDF Domain:** A2.5, A3.3, A3.4 B3.1, D1, D3.3  
**Speaker:** Catenion/Matthias Krings  
**RSD6001**  
**Target:** Group: Researchers from any subject area or year of study  
**Description:** Sharpen your commercial awareness and learn about risk taking and strategic thinking through an interactive board game which sees you taking on the role of a pharmaceutical executive team.

Pharma companies make some of the biggest gambles of any industry: multimillion, even multibillion, dollar investments on a new drug. These investments can take more than a decade to play out. Scientific and technical barriers produce a high failure rate: Only one in ten new Phase I drugs make it to the market.

This workshop gives researchers the chance to:

- Gain an insight into R&D and business development processes
- Experience the highs and lows of working in a team to negotiate deals and licensing agreements
- Consider how projects and deals can be evaluated against industry benchmarks and how this information can form part of the strategic planning process
- Research students and postdocs from all levels are welcome. It is likely to be most relevant to researchers in scientific, medical, business or legal disciplines.

GRAD on the Island

**RDF Domain:** A2.3-2.5, A3.3, B1.1-1.6, B2.1-2.5, B3.1-3.5, C2.2, D1.1-1.8, D2.1, D2.2, D3.2-3.6  
**Speaker:** Various  
**RSD6006**  
**Target Group:** Any subject area, this is intended for researchers who are at least 12 months into their PhD  
**Description:** This course takes the GRADschool out into a new environment. Based in a remote corner of the Isle of Mull, it gives you the chance to take a step back from your PhD to consider your own skills, strengths, motivations and career aspirations. Over the four days, you will take part in group activities, find space for new ideas and time to soak up the atmosphere of the island, while keeping an eye out for sea-eagles.

This course will give you space for fresh thinking on your PhD, yourself and your future career. You will learn simple processes and techniques to become a more effective problem solver and will have the chance to practice these throughout the day.
**Business beyond the bottom line**

RDF Domain: A2.5, A3.3, A3.4 B3.1, D1, D3.3
Speaker: Various
RSDD: 6032
Target Group: Researchers from any subject area or year of study
Description:
This course looks at business and enterprise from an alternative angle and is intended for people who want to examine making a living that is aligned with their personal motivations. We’re not focusing on the pinstripe suit or Dragon’s Den side of running a business but want to explore the distinctive nature of social enterprise, as well as the challenges and benefits of running a business that is based on your own personal values.
- Hear from guest speakers about their own journeys to setting up companies
- Develop a greater understanding of your personal values and sense of direction and how these might fit with running a business
- Learn about core business functions, including finance and funding, strategy and getting the right team
- Practice problem solving, creative thinking, collaborative working and influencing skills
- Consider how your skills, creativity and self-reliance can translate into future opportunities - whether in your career or more widely

This course is for researchers from any subject area, with an interest in values-based business with environmental or societal benefits. If you are working in a technology-based area and looking to design an actual product you may find the course ‘Research Ventures’ is more suited to you. Much of the content of these two courses is similar but the approach is from a different angle, with speakers and case studies chosen accordingly.

**The Thesis Whisperer: What do examiners want?**

RSDC 6031
2.5hr
Tutor: The Thesis Whisperer, Dr Inger Mewburn
Target group: Final year PGRs from all disciplines
Domain: A-D
Description:
Does a thesis have an audience of 2 or 2000? While you write for other researchers in your field, you must first please just two or three people: your examiners. In this workshop we will examine the research on how examiners examine and ask: What separates a good thesis from a bad one? Why do examiners look for their own work in the bibliography? What makes examiners cranky? And other burning questions.

**The Thesis Whisperer: Critical success factors for an academic career**

RSDB 6064
2.5hr
Tutor: The Thesis Whisperer, Dr Inger Mewburn
Target group: 2nd or 3rd year PGRs from all disciplines
Domain: B
Description:
Research on academic job ads show that universities are looking for an extremely broad set of skills and attributes when looking to hire early career researchers. These range from ‘soft skills’ such as pastoral care, team-work and networking, to highly technical skills in teaching and research. Many of these skills are not, by default, developed as part of the PhD experience, especially if your focus has been primarily on developing your dissertation. In this workshop we will critically examine these skill sets and think about how you might go about developing and evidencing them to future academic employers.
By the end of this workshop you will
- Have developed an appreciation for the wide range of skills and attributes required of early career researchers and why university employers are looking for them.
- Started to review your own CV and identify gaps and opportunities
- Understand the academic recruitment process so that you can approach the task of looking for a job with increased confidence.

**Commercialising your Research**

RSDD 6053
Tutor: Enterprise Campus West
Target group: PGRs from scientific disciplines
Domain: A3.3, C1.4, C2.3, C3.1, D1.2, D1.9, D3.2
Gain the knowledge and skills to unlock the commercial potential within their research. Participants will develop a commercially viable offering through a highly participatory process and workshop based approach.

By the end of the workshop participants will have:
- Gained an understanding of the commercialisation process for research led opportunities
- Generated a viable business idea based on your research
- Tested the basic business assumptions and identify commercial potential
- Gained an understanding of business model generation and the elements of a business plan
- Understand the basics and practice pitching your idea for support
- Improved public speaking and presentation skills
- Improved small group dynamic and negotiating /influencing skills
How to write your data management plan

RSDC 6030
Speaker: Research Data Management Service
Target Group: Postgraduate research students
Domain: B1, B2, C1, C2
Duration: 2hr
Description: Funding bodies increasingly require grant-holders to develop and implement Data Management and Sharing Plans (DMPs). Plans typically state what data will be created and how, and outline the plans for sharing and preservation, noting what is appropriate given the nature of the data and any restrictions that may need to be applied. DMPonline is a flexible web-based tool to assist users to create personalised plans appropriate to their context or research funder. This workshop, delivered by the Research Data Management Service, is for researchers and support staff who might be required to write DMPs as part of funding applications. The workshop will provide an introduction to data management planning and guidance on using DMPonline. During the workshop, participants will have an opportunity to try DMPonline out for themselves. This session will take place in a computer lab in the library.

Research Data Management for Graduate Students SCI

RSDC 6025
Speaker: Research Data Management Service
Target Group: Postgraduate research students
Duration: 1.5 hours
Domain: B1, B2, C1, C2
Description: ‘Publicly funded research is a public good’. When data are created as part of academic research, they should be carefully stored, managed and, wherever possible, shared. This workshop will introduce students to examples of good research data practice. Students will learn about data management in an accessible way that they can apply to their own work. Topics will include: the data lifecycle, funder complications and what should happen to your data when you graduate. The session will be illustrated with real-life examples. The workshop is designed for research students in their first year of postgraduate study but is also suitable for students in other years who have not received training in research data management.

Research Integrity SCI

RSDC 6023
Speaker: External
Duration: 2.5hr
Target Group: Postgraduate research students or new postdoctoral researchers. Mandatory for new first year PGRs.
Domain: B1, C1, C2, C3
Description: Responsible, ethical research and publication practices are a key obligation for all researchers. While new researchers are likely to already be familiar with some aspects of research integrity, such as experimental design, appropriate use of statistics, and issues around plagiarism, there are other accepted principles that they may be less aware of and thus might unwittingly breach. These principles include, but are not limited to, practice around: collaborations; matters of intellectual property, including publishing parts of a thesis before or after submission; and data management. Breaches in research integrity are damaging not only to the individuals and their institutions, but also to public trust. The Research Integrity workshop covers the principles of good and ethical practice in research and its publication. It aims to raise awareness of the problems that can arise and how to avoid them. The workshop includes a presentation, a Q&A opportunity, and an interactive case-study session where participants will work in small groups. The workshop is open to research students at all levels, but is compulsory for researchers in the first year of their PhD. Online resources to support learning about the topics above are available here: www.glasgow.ac.uk/researchintegrity

Beginning your Research SCI

RSDA 6082
Speaker: Jennifer Boyle, Writing Centre Co-Ordinator
Duration: 1.5 hours
Domain: A1-3, B1, D2
Target Group: First year PhD students
Description: This workshop will discuss how to establish effective writing habits early in the research process.

Literature Critiques/Reviews SCI

RSDA 6083
Speaker: Jennifer Boyle, Writing Centre Co-Ordinator
Duration: 1.5 hours
Domain: A1-3, B1, D2
Target Group: Any year of student
Description: This workshop will look at the purpose of the literature review, and discuss effective strategies for how it can be structured and edited.

Bootcamp

Not on MyCampus so no course code
Speaker: Jennifer Boyle, Writing Centre Co-Ordinator
Duration: 1.5 hours
Domain: A1-3, B1, D2
Target Group: Any year of student
Description: places by application only – time to work on your writing, with no distraction.

Structuring Your Dissertation SCI

RSDA 6085
Speaker: Jennifer Boyle, Writing Centre Co-Ordinator
Duration: 1.5 hours
Domain: A1-3, B1, D2
Target Group: Any year of student
Description: This workshop will discuss strategies for effective structuring of your dissertation at both the planning and editing stages.

Effective Writing 1 SCI

RSDA 6086
Speaker: Jennifer Boyle, Writing Centre Co-Ordinator
Duration: 1.5 hours
Domain: A1-3, B1, D2
Target Group: Any year of student
Description: This workshop will discuss techniques to maintain motivation throughout the writing process. It will encourage you to reflect on your writing practice, identify your habits, and come up with ways of using your writing time effectively.

Effective Writing 2 SCI

RSDA 6087
Speaker: Jennifer Boyle, Writing Centre Co-Ordinator
Duration: 1.5 hours
Domain: A1-3, B1, D2
Target Group: Any year of student
Description: This workshop will look at grammar and punctuation. It will also discuss proofreading and editing strategies.

Writing for Publication SCI

RSDA 6088
Speaker: Jennifer Boyle, Writing Centre Co-Ordinator
Duration: 1.5 hours
Domain: A1-3, B1, D2
Target Group: Any year of student
Description: This workshop will discuss the benefits of publication, and look broadly at the practicalities of writing for publication while studying.
Online courses

PG Essentials, Strategies for a Successful Start to your PhD
(Online Training)
Speaker: Online course – not booked through My Campus
Target Group: 1st year PhD students from any subject area.
Description: This online course provides new researchers with practical information and skills for getting started in their PhD. It will be particularly useful if you are a part-time or distance learning student or if you are new to the University of Glasgow.

The course contains 6 modules, which you can work through at your own pace:

• Starting your PhD - understanding the key stages and challenges involved in research and links to sources of support, guidance and where to find stuff out!
• Getting organised
• Working with your supervisor - understanding roles and responsibilities - what they expect from you, what you can expect from them (and from the University or your Graduate School).
• Searching literature - browsers, search engines, bibliographic software, online databases, indexes and catalogues
• Writing a literature review
• Preparing for progression - what’s expected from you at the end of your 1st year
• Breaking down various aspects of PhD work into sections was helpful - it’s easier to digest what is an intimidating project if only small aspects are considered at a time.

The time commitment for this course is very flexible and you get out as much as you put in. All the links and enrolments keys to access the course through Moodle can be found here: www.glasgow.ac.uk/students/researcherdevelopment/coursesandevents/strategiesforasuccessfulstart

Towards the Finish Line
(Online Training)
RDF Domain: A3.4, B1.5, B3.1-3.5, D2.3
Speaker: Online course – Not booked through My Campus
Target Group: Final year PhD students from any subject area.
Description: Finishing the fieldwork, writing-up, getting published, preparing for the viva. The final few months of a PhD are daunting for anyone. Even more so if you are also trying to job-hunt at the same time. This new online course will lead you through the final stages of a PhD, including information on:

• Developing a timeline for completion
• The nuts and bolts of getting your thesis written and submitted
• The purpose and structure of a viva at Glasgow (including real viva video clips)
• Writing for publication
• Job searching
• CVs and applications
• Careers in academia (including subject specific videos, presentations and other resources)
• Interview skills and assessment centres
• Using social media to boost your profile and connect with employers

The course contains 2 modules, which you can work through at your own pace:
• Thesis and Viva Preparation
• Job Hunting and Careers

This course is ideal for part time researchers or those of you based off-campus. The time commitment is very flexible.

All the links and enrolments keys to access the course through Moodle can be found here: www.glasgow.ac.uk/students/researcherdevelopment/coursesandevents/towardsthefinishline-vivapreparation/
Courses Currently Available

Planning Clinical Research
- Introduction to Clinical Research (Half-day)
- Being Well Read— How to Read a Scientific Paper (Half-day)
- Thinking Like a Researcher (Half-day)
- Right from Wrong—Clinical Research Ethics in Practice (Half-day or Full-day)
- Blueprints—How to Write a Protocol (Half-day)
- Show me the Money—Finding Funding for Clinical Research (Half-day)
- IRAS—Using the Integrated Research Application System (Half-day)

Doing Clinical Research
- NRS Introduction to Good Clinical Practice (Full day)
- NRS GCP Update—A Refresher Course (Half day)
- Bandages to Brain Scanners—GCP for Medical Device Studies (Half-day)
- Recipes for Success—SOP Writing Workshop (Half-day)
- Finders, Keepers—Recruitment & Retention in Clinical Trials (Half-day)
- Informed Consent in Research—Legal and Ethical Issues in Adults (Half-day)
- Informed Consent in Research—Legal and Ethical Issues in Children (Half-day)
- Data Management in Research (Half-day)
- CTIMP workshop (Full day)
- Laboratory workshop (Half day)
- Introduction to Medical Statistics - Part 1
- Medical Statistics (Correlation and Regression) – Part 2
- Medical Statistics (Hypothesis Testing) – Part 3
- Power and Sample Size Calculations

Communicating Research
- Abstract Expressions—Writing Effective Abstracts for Conferences & Papers (Half-day)
- The Big Picture—Writing an Effective Literature Review (Half-day)
- Lecturing with Ease—A Guide to Giving an Effective Presentation (Half-day or Full-day)
- Poster Paints—How to Design an Effective Conference Poster (Half-day)
- SWIPE—Effective Slide Design (Half-day)
- Research: Social Media for Researchers
- The Write Stuff—A Short Scientific Writing Course (Three Half-days)

Generic Professional Skills
- Putting it Together—Project Management in Clinical Research (Half-day)
- The Road Less Travelled—Decision Making in Practice (Half-day)
- Tick, Tock—Successful Time Management for Researchers (Half-day)

How to book
Courses offered by the Glasgow Clinical Research Facility can be booked via their website:
www.glasgowcrf-education.org/courses.php

Glasgow Clinical Research Facility

The Education Unit was established in April 2006 as part of the Glasgow Clinical Research Facility.

The Clinical Research Facility (CRF) was established in response to the legislation governing the conduct of CTIMPs in the UK and is supported by the Chief Scientist Office.

The Education team works closely with our partners in the NHS, Higher Education Institutes and Research & Development departments to provide a service that is tailored to meet the needs of researchers and associated staff.

The Research Unit collaborates with education staff in CRFs across the UK and with colleagues at the NIHR to ensure a cohesive and standardised programme of education opportunities are available to researchers.

The following courses are offered by Glasgow Clinical Research Facility

For further details of any these courses please go to the Glasgow Clinical Research Facility’s website
http://www.glasgowcrf-education.org/index.html
IT Services Courses

The following courses are a selection of those offered by IT Services. For a full list of available courses please refer to the IT Services webpage.

Each course carries 1 credit

How to Book

For details on how to book these courses, please refer to the IT Services web page; www.glasgow.ac.uk/training

Introduction to Access
RDF Domain: A1.3; A1.7; C2.2
Pre-requisites: Familiarity with computing and the Windows environment.
On successful completion of this course participants will be able to:
• Create databases, tables, forms and reports
• Specify field properties
• Use Query-By-Example and Access Wizards
Maximum Number: 22

Introduction to Excel
RDF Domain: A1.3; A1.7; C2.2
Pre-requisites: Thorough familiarity with Windows.
On successful completion of this course participants will be able to:
• Define, format and manipulate spreadsheets
• Print spreadsheets
• Build and revise formulae (manually and using functions)
Maximum Number: 20

Introduction to PowerPoint
RDF Domain: D 2.2
Pre-requisites: Familiarity with computing, and with Microsoft Windows
On successful completion of this course participants will be able to:
• Create simple text presentations, use templates
• Incorporate pictures or graphs into presentations
• Produce audience handouts and speakers’ notes
• Create on-screen video presentations
Maximum Number: 20

Further Excel: Graphs and Charts
RDF Domain: A1.3; A1.7; C2.2
Pre-requisites: Familiarity with Windows and Excel basics
On successful completion of this course participants will be able to:
• Create and edit charts
Maximum Number: 20

Further Excel: Datalists, Pivot Tables and More
RDF Domain: A1.3, A1.7, C2.2
Pre-requisites: Familiarity with Windows and Excel basics
On successful completion of this course participants will be able to:
• Define a data list and use filtering to extract data
• Create pivot tables to manipulate data
• Construct and revise formulae to analyse data list information
Maximum Number: 20

PowerPoint: Multimedia and Special Effects
RDF Domain: D 2.2
Pre-requisites: Familiarity with PowerPoint
On successful completion of this course participants will be able to:
• Include video and sound clips in on-screen presentations
• Write up PowerPoint slides as a word document
• Publish PowerPoint slides on the World Wide Web
Maximum Number: 20

Introduction to Gnu/Linux using Debian Distribution
RDF Domain: A1.2
Pre-requisites: On successful completion of this course participants will be able to:
• Run a GNU/Linux operating system using the Debian “Live” CD
• Understand and explore the GNU/Linux file system including directories, paths and file permissions
• Use the bash shell (command line) for basic file management tasks
• Use Gimp for basic graphics work
• Use Open Office programs to create and read documents and spreadsheets (including for MS Office)
• Follow up an appendix of links and references relating to the open source movement
Maximum Number: 20
Introduction to SPSS
RDF Domain: A1.2
Pre-requisites: Knowledge of statistical procedures and basic computer skills
On successful completion of this course participants will be able to:

• Understand the variety of interfaces, data and command files
• Use graphical representation of data

Using Word to prepare your Thesis
RDF Domain: A1
Target Group: Years 2 and beyond
Description: Duration: 2 Half-days
Prerequisites: Sound working knowledge of Word
Objectives:
On successful completion of this course, participants will be able to:

• Create and use templates, styles and Autotext
• Create and edit footnotes, page headers and footers
• Insert and manipulate graphics
• Use captions on table and figures
• Combine all chapters into one document
• Create a table of contents/figures
• Create a suitable version of a thesis for electronic deposit
Additional Skills
Training Activities

Credits can also be obtained from a range of activities not covered by the courses listed in this brochure.

The list below gives examples but is not exhaustive. Activities can be assigned credits by your Institute/School postgraduate Convenor. Email them with a brief description of the course/activity and clearly state in which of the RDF skills domains you gained training. Then email evidence that you have undertaken the training to the Graduate School and request that the credit be added to your training record.

e-mail: mvls-gradschool@glasgow.ac.uk

<table>
<thead>
<tr>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-ordinating / Convening a Seminar Series, Workshop or Conference</td>
</tr>
<tr>
<td>Co-ordinating / Convening a Conference or Workshop</td>
</tr>
<tr>
<td>Co-ordinating / Convening a Seminar series</td>
</tr>
<tr>
<td>Conferences</td>
</tr>
<tr>
<td>Conference – attendance</td>
</tr>
<tr>
<td>Conference - oral presentation</td>
</tr>
<tr>
<td>Conference - poster presentation</td>
</tr>
<tr>
<td>Conference - preparation of paper for inclusion in conference publication</td>
</tr>
<tr>
<td>Institute/School Seminar</td>
</tr>
<tr>
<td>Giving Institute/School Seminar – Per Presentation</td>
</tr>
<tr>
<td>External Seminar</td>
</tr>
<tr>
<td>Presentation at an External Seminar – Per Presentation</td>
</tr>
<tr>
<td>International Training Workshops</td>
</tr>
<tr>
<td>Attendance at international training workshop</td>
</tr>
<tr>
<td>Research Council Training Course</td>
</tr>
<tr>
<td>Research council training course - per day</td>
</tr>
<tr>
<td>Journals</td>
</tr>
<tr>
<td>Writing a paper for submission to a Journal - per paper</td>
</tr>
<tr>
<td>Writing an article for a non-scientific publication</td>
</tr>
<tr>
<td>Research Group Journal Club</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>Journal club presentation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff / Student Committees</th>
<th>B3.4, D1.6, D2.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being a postgraduate representative on University committee</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching / Demonstrating</th>
<th>D3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory demonstrating</td>
<td></td>
</tr>
<tr>
<td>(1 credit per year)</td>
<td></td>
</tr>
<tr>
<td>Facilitating PBL sessions</td>
<td></td>
</tr>
<tr>
<td>(1 credit per year)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public Engagement Activities</th>
<th>D1.5 D2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambassador role eg. STEM Ambassador, NCCPE Ambassador etc.</td>
<td></td>
</tr>
<tr>
<td>Presentation eg. at Café Scientifique, public lecture or talk in school</td>
<td>D2.1 D2.2</td>
</tr>
<tr>
<td>Participation in PE activity designed and organised by someone else eg. schools outreach, science festival</td>
<td>D1.5 D3.2</td>
</tr>
<tr>
<td>Design/organisatioon of own PE activity</td>
<td>D1.2 D1.3 D3.2</td>
</tr>
<tr>
<td>PE via conventional/social media eg. newspaper article, TV/radio interview, blogging, facebook twitter etc.</td>
<td>D1.6 D2.1 D2.2</td>
</tr>
<tr>
<td>Participation in PE scheme eg. I'm a scientist, get me out of here, Bright Club, Fame Lab</td>
<td>D2.6 D2.1 D2.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Union Roles</th>
<th>B3.4, D1.2, D1.6, D2.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Club and society office</td>
<td></td>
</tr>
</tbody>
</table>
University of Glasgow Careers Service Courses

The following courses are offered by the Careers Service.

How to Book

All courses provided as part of the Research and Development Training Programme can be booked online via MyCampus unless otherwise stated in the course description.

1. Search to enrol for courses using MyCampus (under Self Service - Student Centre / Enrollment / Add by Search / Course Career: PG Research).
2. When in the ‘Search for Classes’ page under the ‘Course Catalogue’ section, please add the 4 digit number at the end of the course code, for example, RSDB6006 (remove letters and add numbers only). Select ‘Postgraduate research’ from the drop down menu – select ‘Search’.
3. Select your preferred Course and Date which will be added to ‘your choices’.
4. Make sure that you click on the ‘my choices’ tab then select the courses from the table view and then click on ‘Enrol’ to complete enrolment on the course/workshop.

You will receive an automated email within 24 hours, confirming that you have booked a place on this course. Course venues will be entered onto MyCampus but may be subject to change between the point of booking and the date of the course. You will receive an automated reminder, on the Friday prior to the event, letting you know the venue of the course.

Reviewing Your Career
Course Code: RSDB 6036
RDF Domain: B1.4-1.6, B3.1-3.3
Speaker: Mrs Katrina Gardner, Careers Service
Target Group: PhD students, MRes Students and Early Career Researchers
Description: This workshop will be useful to you if you are actively considering your career options including those of you who are thinking of moving out of academia. It will help you to have greater awareness of your transferable skills, to reflect on what is important to you as you develop your career, and to be aware of the resources available to support you.

Job Hunting and Successful Applications
Course Code: RSDB 6034
RDF Domain: B1.4-1.6, B3.1-3.4
Speaker: Mrs Katrina Gardner, Careers Service
Target Group: PhD students, MRes Students and Early Career Researchers
Description: Postgraduate research develops a huge range of skills and experience valued by employers across every sector. Getting the right message across to a potential employer on paper is key to being shortlisted for interview. This session looks at making sure you market yourself effectively through CVs, Cover Letters and application forms. It will also look at how to find opportunities in the labour market, including vacancies and more direct approaches to employers.

Performing Well in Job Interviews
Course Code: RSDB 6039
RDF Domain: B1.4-1.6, B3.1-3.3
Speaker: Mrs Katrina Gardner, Careers Service
Target Group: PhD students, MRes Students and early Career Researchers
Description: Job interviews can be very daunting experiences and it is natural to feel anxious. Doing as much preparation as possible can help you keep those interview nerves under control and make you aware of your strengths as well as your weaknesses. This session will help you to identify what recruiters are looking for and prepare you to tackle those awkward questions. The Careers Service offers a full service to all postgraduate researchers and early career researchers. They can help you with your career planning, whether you aim to progress your career in academia or are considering moving into one of the many other careers open to you. Equally, they can help you if you just can’t make up your mind on which route to take. And they can support you in finding the right job, from looking for opportunities through to making applications and going for interviews. Careers Advisers work closely with MVLS staff and students delivering workshops to students at all levels across the College and embedding employability. Careers advisers are responsible for the following:

Medicine – Steven Shilton
Veterinary, postgraduate research students and research staff – Katrina Gardner
Life Sciences – Archie Roy

The Careers Service is centrally located in the Fraser Building, Hillhead Street off University Avenue and is open Monday to Friday 9am – 5pm during term times please see Careers Service website for opening times during the summer vacation at www.glasgow.ac.uk/services/careers/
Employee and Organisational Development Courses

Courses offered by Employee and Organisational Development are not available to postgraduate students, only to Research Staff. Courses available are listed on the website at:

www.glasgow.ac.uk/services/humanresources/employeeandorganisationaldevelopment

How to Book

For details on how to book these courses, please refer to the Employee and Organisational Development web page,

www.glasgow.ac.uk/services/humanresources/employeeandorganisationaldevelopment

Important: Please note that if you have registered for one of the courses and should you either fail to attend or make a last minute cancellation, you will be liable for the payment of a cancellation fee.
Other internal training opportunities and useful contacts

**English Language Courses**
Students whose first language is not English can improve their English language skills by attending courses run by the 'English as a Foreign Language Unit' which is part of the University’s Language Centre. The Unit offers a range of courses, including language support for registered, international students. This programme is called English and Study Skills (ESS); classes are offered free of charge to students who have successfully completed a Pre-entry or Pre-sessional course, and also to students who are paying full overseas tuition fees. EU students will be asked to pay a small fee. Students can register for these classes at the EFL Unit office in the Hetherington Building. Further details are available on their web site at [www.glasgow.ac.uk/services/languagcentre](http://www.glasgow.ac.uk/services/languagcentre) or you may contact them at the following address:

**English as a Foreign Language Unit**
Hetherington Building
Bute Gardens
Phone: +44 (0)141 330 6521

**External training opportunities and useful contacts for researchers**

**VITAE**
Vitae is a national organisation championing the personal, professional and career development of doctoral researchers and research staff in higher education institutions and research institutes. Vitae offers a wide range of support to young researchers and you are encouraged to visit their web site at [http://www.vitae.ac.uk](http://www.vitae.ac.uk).

The STEM Ambassadors scheme is another way in which graduate students can become involved in promoting science to school pupils and in the wider community. Ambassadors are trained and vetted before going into schools to help teachers promote science in a stimulating and exciting way. Getting involved with this programme is an ideal way of developing your communication skills and building confidence. Typical projects include:

- Clyde in the Classroom
- Junior Engineer for Britain – K'NEX Challenge
- Young Engineer for Britain Competition
- Careers Scotland Makelt Roadshow
- Crest Awards
- National Science Week
- Community Science Fairs
- School Requests

Further information and application forms are available on the web at: [http://urml.co.uk/www.stemscoatlnd.com](http://urml.co.uk/www.stemscoatlnd.com)

**Glasgow Science Festival**

[www.glaswosciacencefestival.org.uk/events/sciencefestival/getinvolved](http://www.glaswosciacencefestival.org.uk/events/sciencefestival/getinvolved)

**Biotechnology Young Entrepreneurs Scheme (BIOTECH YES)**
This is a national competition, organised by the BBSRC. Teams benefit from entrepreneurial awareness training and present their plans for hypothetical businesses to real entrepreneurs, financiers and industrialists.

So far, over 2000 postgraduate and postdoctoral researchers have benefited from the mentoring, practical workshops and advice from this competition.

The competition is supported by a large number of companies and co-organised by BBSRC and UNIEI.

**NERC Public engagement training**
Are you a NERC-funded student or do we fund your scientific research? If so, you are eligible for free training to develop your science communication and public engagement skills. This is a great way to learn how to promote your research findings and ideas to different audiences.

**Researcher Development Log**
All postgraduate students are required to maintain a Researcher Development Log as part of their training programme. The form is included in this brochure and is available for download in Word format from the Graduate School website [www.glasgow.ac.uk/media/media_234176_en.docx](http://www.glasgow.ac.uk/media/media_234176_en.docx).

Your Researcher Development Log should be used to record the training courses attended and other skills training activities undertaken along with the respective skills domains for each course or activity as detailed in Appendix 1. The Researcher Development Log will form part of the Progress Review and must be submitted in conjunction with your Progress Review Form and your Scientific Report for review by your assessment panel.

**Meetings with supervisors**
Contact with your supervisor(s) will often be on a daily basis. However, you should hold regular, more formal meetings with your supervisor(s) to discuss progress and the results obtained so far and to plan the next stage of your research. These meetings should also include a discussion of your skills training needs and how the skills are to be acquired. The Researcher Development Log can be used as the basis for discussions about skills training with your supervisor(s). Initially, supervisory meetings should take place weekly or (at least) once a fortnight. As your studies progress, you and your supervisor(s) may decide to hold these more formal meetings slightly less frequently if the work appears to be progressing well.

Sometimes these meetings can be quite long because there may be a lot to discuss. It is recommended, therefore, that you take notes on the discussion. It is also helpful for both you and your supervisor(s) if a record is made of any agreed actions that need to be undertaken. It is good practice to send a copy of these notes to your supervisor(s) so that there are no misunderstandings about what has been agreed. Updating your Personal Development Plan after these meetings is advised.

**Recording your professional development**
The Researcher Development Statement (RDS) is endorsed by University of Glasgow as well as by national organisations and funding bodies. It sets out the knowledge, behaviours and attributes of effective and highly skilled researchers. The RDS is structured into four domains, as in the diagram below. Each area is considered to be a key component of a research career and it is expected that you will develop your skills and knowledge in each of these throughout the course of your PhD. A detailed explanation of each area can be found in appendix 1.

**Research Student Skills and Career Development Training Needs Analysis Template**
[http://www.gla.ac.uk/colleges/rmls/graduateschool/currentstudents/postgraduateannualreviewprocessa](http://www.gla.ac.uk/colleges/rmls/graduateschool/currentstudents/postgraduateannualreviewprocessa)
At the start of their research degree, PGR students should undertake a 'Training Needs Analysis' and develop a training plan. Current skills levels should be assessed to indicate gaps – a current skill level of 5 indicates you are confident in that area; research students should examine the following areas/questions and give an honest appraisal of their skills in each area. Development needs should then be rated by priority as ‘low (not needed immediately), medium (needed this year), or high (needed in next few months); this stage should take place in consultation with your supervisor team.

Details of training completed and planned should be included into your Researcher Development Log. The sub-themed headings below may not be relevant for all students; these are designed to stimulate your thinking about your development within these generic skills training areas. Please read in conjunction with the Vitae-Researcher Development Framework document, available from the graduate school web site. We recognise that not all of these questions/areas are relevant to all students. These are intended to stimulate your thinking about your training and are not prescriptive.

**Domain A – Knowledge and Intellectual Abilities (Knowledge Base)**

This area concerns your knowledge base of your subject, from theoretical to practical, and covers your ability to both use and acquire knowledge. Consider your skills honestly and objectively under the following broad headings:

<table>
<thead>
<tr>
<th>Current Skill Level</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Subject Knowledge**

- Theoretical Knowledge
- Practical application
- Information acquisition and understanding
- Information literacy
- Literacy and Numeracy skills
- Critical analytical ability
- Critical thinking
- Evaluation skills
- Creativity

**Domain B – Personal Effectiveness**

Here, you should examine your skills in areas relating to personal qualities and self-management skills that underpin any successful career. How would you rate your ability in the following broad areas?

<table>
<thead>
<tr>
<th>Current Skill Level</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

- Self-confidence/self-reliance/responsibility
- Priority setting, time-management
- Networking skills
- Understands standards of good research practice in the institution and/or research area
- Makes time to reflect on practice and experience
- Demonstrates self-awareness and the ability to identify own development needs
- Appreciates the need for and shows commitment to continuing professional development

**Domain C – Research Governance and Organisation**

This domain contains the knowledge of the standards, requirements and professional conduct that are needed for the effective management of research. Do you:

<table>
<thead>
<tr>
<th>Current Skill Level</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

- Understand relevant health and safety issues and demonstrates responsible working practices?
- Understand and apply the relevant codes of conduct and guidelines for the ethical conduct of research?
- Understand and adhere to the rules and regulations concerning academic malpractice in the institution and professional body and funder if appropriate?
- Understand and applies it consistently and fairly to appropriately recognise contributions and co-authorship; seeks advice on local codes of conduct?
- Understand and adheres to the rules and regulations concerning academic malpractice in the institution in which based and of professional body and funder if appropriate?
- Are you aware of how own research aligns with the research strategy of the institution and strategic focus of the research area?
- Do you apply effective project management through the setting of research goals, intermediate milestones, and prioritisation of activities?
- Understand the processes for funding and evaluation of research?
- Understand the basic principles of financial management?
- Have some commercial awareness?

**Domain D – Engagement, Influence, and Impact**

This domain considers the knowledge, understanding and skills needed to engage with, influence and impact on the academic, social, cultural and economic context.

<table>
<thead>
<tr>
<th>Current Skill Level</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

- Effectively supports the learning of others when involved in teaching, mentoring, demonstrating, or other research activities
- Recognises the importance of mentorship and receiving mentoring
- Recognises implications of own research for real life contexts
- Understands the concept of research impact and can apply this to their research by identifying relevant communities of research users, the mechanisms necessary to engage with them, and the means to evidence any impacts generated
- Understands equality and diversity requirements of institution
- Constructs coherent arguments and articulates ideas clearly to a range of audiences, formally and informally, through a variety of techniques
- Develops skills in a range of communication means – such as face-to-face interaction, using interactive technologies, and/or textual and visual media
- Uses audio-visual aids effectively in presentations
- Understands the processes of publication and academic exploitation of research results
- Participates in research meetings (seminars, workshops, conferences, etc.); has a developing awareness of the ways research influences/interacts with teaching
- Understands the processes of commercial exploitation of research results
- Learns of the value to academia of establishing relationships in business/commercial contexts
- Shows a broad understanding of the context in which own research takes place, at the national and international level

**Subject-specific skills training.**

- Elements of subject-specific training will be compulsory for different programs e.g. ‘Introduction to the Omics’ for CMVLS studentships; subject-specific tutorial sessions for BBSRC cohorts, etc.). These should be noted below.
- You need to discuss with your supervisor what subject-specific skills training you require and identify sources for this training. This may include training elements offered by CMVLS, training courses elsewhere in the University of external courses, conferences, workshops or study visits. These additional training elements should be detailed below, with an approximate indication of when you will undertake these.

**Research Student Skills and Career Development Training Needs Analysis Template**

<table>
<thead>
<tr>
<th>Research Student’s Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full name, in capital letters</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Institute/School</th>
<th>Date of Completion of Form</th>
</tr>
</thead>
</table>

**Do you intend/have you explored possibilities for Graduate Teaching Assistant roles?**

**Subject-specific skills training:**

- Elements of subject-specific training will be compulsory for different programs e.g. ‘Introduction to the Omics’ for CMVLS studentships; subject-specific tutorial sessions for BBSRC cohorts, etc.). These should be noted below.
- You need to discuss with your supervisor what subject-specific skills training you require and identify sources for this training. This may include training elements offered by CMVLS, training courses elsewhere in the University of external courses, conferences, workshops or study visits. These additional training elements should be detailed below, with an approximate indication of when you will undertake these.
Researcher Development Log

You should regularly update this log to record when and what type of training you have undertaken. It is expected that you will have recorded training and/or practical experience in each of the four areas of the RDS by the time you complete your studies.

<table>
<thead>
<tr>
<th>RDS Domain</th>
<th>Training/professional development activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Domain A: Knowledge and intellectual abilities</strong></td>
<td>Please list any training courses undertaken in this area</td>
</tr>
<tr>
<td>This domain relates to the knowledge and intellectual abilities needed to be able to carry out excellent research.</td>
<td>Please list any practical experience undertaken in this area and comment on how it has helped you develop specific skills in this domain (see Appendix 1)</td>
</tr>
<tr>
<td><strong>Domain B: Personal effectiveness</strong></td>
<td>Please list any training courses undertaken in this area</td>
</tr>
<tr>
<td>This domain contains the personal qualities, career and self-management skills required to take ownership for and engage in professional development.</td>
<td>Please list any practical experience undertaken in this area and comment on how it has helped you develop specific skills in this domain (see Appendix 1)</td>
</tr>
<tr>
<td><strong>Domain C: Research governance and organisation</strong></td>
<td>Please list any training courses undertaken in this area</td>
</tr>
<tr>
<td>This domain relates to the knowledge of the standards, requirements and professional conduct that are needed for the effective management of research.</td>
<td>Please list any practical experience undertaken in this area and comment on how it has helped you develop specific skills in this domain (see Appendix 1)</td>
</tr>
<tr>
<td><strong>Domain D: Engagement, influence and impact</strong></td>
<td>Please list any training courses undertaken in this area</td>
</tr>
<tr>
<td>This domain relates to the knowledge, understanding and skills needed to engage with, influence and impact on the academic, social, cultural, economic and broader context.</td>
<td>Please list any practical experience undertaken in this area and comment on how it has helped you develop specific skills in this domain (see Appendix 1)</td>
</tr>
</tbody>
</table>

Signature:…………………………………… Date:…………………………………………
### Domain A: Knowledge and intellectual abilities

This domain relates to the knowledge and intellectual abilities needed to be able to carry out excellent research.

<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>Sub-domain summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Knowledge base</strong></td>
<td><strong>Knowledge of:</strong> The area of research, the advances within it and its relationships with other research areas The methods and experimental techniques appropriate for research design Sources of information, bibliographic software and other information technologies Literacy and numeracy skills and language abilities appropriate for research <strong>Behaviour:</strong> Makes original contributions to knowledge Identifies, applies and develops methods and experimental techniques appropriate for research projects Conducts effective and comprehensive information searches Records, manages and handles information/data using appropriate bibliographic software and other information technologies</td>
</tr>
<tr>
<td>1. Subject knowledge</td>
<td><strong>Knowledge of:</strong> The area of research, the advances within it and its relationships with other research areas The methods and experimental techniques appropriate for research design Sources of information, bibliographic software and other information technologies Literacy and numeracy skills and language abilities appropriate for research <strong>Behaviour:</strong> Makes original contributions to knowledge Identifies, applies and develops methods and experimental techniques appropriate for research projects Conducts effective and comprehensive information searches Records, manages and handles information/data using appropriate bibliographic software and other information Technologies</td>
</tr>
<tr>
<td>2. Research methods – theoretical knowledge</td>
<td><strong>Knowledge of:</strong> The area of research, the advances within it and its relationships with other research areas The methods and experimental techniques appropriate for research design Sources of information, bibliographic software and other information technologies Literacy and numeracy skills and language abilities appropriate for research <strong>Behaviour:</strong> Makes original contributions to knowledge Identifies, applies and develops methods and experimental techniques appropriate for research projects Conducts effective and comprehensive information searches Records, manages and handles information/data using appropriate bibliographic software and other information Technologies</td>
</tr>
<tr>
<td>3. Research methods – practical application</td>
<td><strong>Knowledge of:</strong> The area of research, the advances within it and its relationships with other research areas The methods and experimental techniques appropriate for research design Sources of information, bibliographic software and other information technologies Literacy and numeracy skills and language abilities appropriate for research <strong>Behaviour:</strong> Makes original contributions to knowledge Identifies, applies and develops methods and experimental techniques appropriate for research projects Conducts effective and comprehensive information searches Records, manages and handles information/data using appropriate bibliographic software and other information Technologies</td>
</tr>
<tr>
<td>4. Information seeking</td>
<td><strong>Knowledge of:</strong> The area of research, the advances within it and its relationships with other research areas The methods and experimental techniques appropriate for research design Sources of information, bibliographic software and other information technologies Literacy and numeracy skills and language abilities appropriate for research <strong>Behaviour:</strong> Makes original contributions to knowledge Identifies, applies and develops methods and experimental techniques appropriate for research projects Conducts effective and comprehensive information searches Records, manages and handles information/data using appropriate bibliographic software and other information Technologies</td>
</tr>
<tr>
<td>5. Information literacy and management</td>
<td><strong>Knowledge of:</strong> The area of research, the advances within it and its relationships with other research areas The methods and experimental techniques appropriate for research design Sources of information, bibliographic software and other information technologies Literacy and numeracy skills and language abilities appropriate for research <strong>Behaviour:</strong> Makes original contributions to knowledge Identifies, applies and develops methods and experimental techniques appropriate for research projects Conducts effective and comprehensive information searches Records, manages and handles information/data using appropriate bibliographic software and other information Technologies</td>
</tr>
<tr>
<td>6. Languages</td>
<td><strong>Knowledge of:</strong> The area of research, the advances within it and its relationships with other research areas The methods and experimental techniques appropriate for research design Sources of information, bibliographic software and other information technologies Literacy and numeracy skills and language abilities appropriate for research <strong>Behaviour:</strong> Makes original contributions to knowledge Identifies, applies and develops methods and experimental techniques appropriate for research projects Conducts effective and comprehensive information searches Records, manages and handles information/data using appropriate bibliographic software and other information Technologies</td>
</tr>
<tr>
<td>7. Academic literacy and numeracy</td>
<td><strong>Knowledge of:</strong> The area of research, the advances within it and its relationships with other research areas The methods and experimental techniques appropriate for research design Sources of information, bibliographic software and other information technologies Literacy and numeracy skills and language abilities appropriate for research <strong>Behaviour:</strong> Makes original contributions to knowledge Identifies, applies and develops methods and experimental techniques appropriate for research projects Conducts effective and comprehensive information searches Records, manages and handles information/data using appropriate bibliographic software and other information Technologies</td>
</tr>
</tbody>
</table>

| 2. Cognitive abilities | **Behaviour:** Analyses and evaluates findings using appropriate methods Thinks originally, independently and critically; develops theoretical concepts Critically synthesises information from diverse sources Evaluates progress, impact and outcomes of research Recognises and validates problems; formulates and applies solutions to a range of research problems **Attitude:** Willing to give and receive constructive criticism |
| 1. Analysing | **Behaviour:** Analyses and evaluates findings using appropriate methods Thinks originally, independently and critically; develops theoretical concepts Critically synthesises information from diverse sources Evaluates progress, impact and outcomes of research Recognises and validates problems; formulates and applies solutions to a range of research problems **Attitude:** Willing to give and receive constructive criticism |
| 2. Synthesising | **Behaviour:** Analyses and evaluates findings using appropriate methods Thinks originally, independently and critically; develops theoretical concepts Critically synthesises information from diverse sources Evaluates progress, impact and outcomes of research Recognises and validates problems; formulates and applies solutions to a range of research problems **Attitude:** Willing to give and receive constructive criticism |
| 3. Critical thinking | **Behaviour:** Analyses and evaluates findings using appropriate methods Thinks originally, independently and critically; develops theoretical concepts Critically synthesises information from diverse sources Evaluates progress, impact and outcomes of research Recognises and validates problems; formulates and applies solutions to a range of research problems **Attitude:** Willing to give and receive constructive criticism |
| 4. Evaluating | **Behaviour:** Analyses and evaluates findings using appropriate methods Thinks originally, independently and critically; develops theoretical concepts Critically synthesises information from diverse sources Evaluates progress, impact and outcomes of research Recognises and validates problems; formulates and applies solutions to a range of research problems **Attitude:** Willing to give and receive constructive criticism |
| 5. Problem solving | **Behaviour:** Analyses and evaluates findings using appropriate methods Thinks originally, independently and critically; develops theoretical concepts Critically synthesises information from diverse sources Evaluates progress, impact and outcomes of research Recognises and validates problems; formulates and applies solutions to a range of research problems **Attitude:** Willing to give and receive constructive criticism |

<p>| 3. Creativity | <strong>Behaviour:</strong> Develops new ways of working; has novel ideas and realises their potential Identifies new trends; creates new opportunities Develops convincing and persuasive arguments to defend research Takes intellectual risks; challenges the status quo <strong>Attitude:</strong> Takes a creative, imaginative and inquiring approach to research Is open to new sources of ideas |
| 1. Inquiring mind | <strong>Behaviour:</strong> Develops new ways of working; has novel ideas and realises their potential Identifies new trends; creates new opportunities Develops convincing and persuasive arguments to defend research Takes intellectual risks; challenges the status quo <strong>Attitude:</strong> Takes a creative, imaginative and inquiring approach to research Is open to new sources of ideas |
| 2. Intellectual insight | <strong>Behaviour:</strong> Develops new ways of working; has novel ideas and realises their potential Identifies new trends; creates new opportunities Develops convincing and persuasive arguments to defend research Takes intellectual risks; challenges the status quo <strong>Attitude:</strong> Takes a creative, imaginative and inquiring approach to research Is open to new sources of ideas |
| 3. Innovation | <strong>Behaviour:</strong> Develops new ways of working; has novel ideas and realises their potential Identifies new trends; creates new opportunities Develops convincing and persuasive arguments to defend research Takes intellectual risks; challenges the status quo <strong>Attitude:</strong> Takes a creative, imaginative and inquiring approach to research Is open to new sources of ideas |
| 4. Argument construction | <strong>Behaviour:</strong> Develops new ways of working; has novel ideas and realises their potential Identifies new trends; creates new opportunities Develops convincing and persuasive arguments to defend research Takes intellectual risks; challenges the status quo <strong>Attitude:</strong> Takes a creative, imaginative and inquiring approach to research Is open to new sources of ideas |
| 5. Intellectual risk | <strong>Behaviour:</strong> Develops new ways of working; has novel ideas and realises their potential Identifies new trends; creates new opportunities Develops convincing and persuasive arguments to defend research Takes intellectual risks; challenges the status quo <strong>Attitude:</strong> Takes a creative, imaginative and inquiring approach to research Is open to new sources of ideas |</p>
<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>Sub-domain summary</th>
<th>JSS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Domain B: Personal effectiveness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This domain contains the personal qualities,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>career and self-management skills required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to take ownership for and engage in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>professional development.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1. Personal qualities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Enthusiasm</td>
<td>Attitude: Approaches research with enthusiasm, passion</td>
<td>B3</td>
</tr>
<tr>
<td>2. Perseverance</td>
<td>and confidence</td>
<td></td>
</tr>
<tr>
<td>3. Integrity</td>
<td>Is resilient and perseveres in the face of obstacles</td>
<td>D5</td>
</tr>
<tr>
<td>4. Self-confidence</td>
<td>Is self-reflective; seeks ways to improve performance</td>
<td>D6</td>
</tr>
<tr>
<td>5. Self-reflection</td>
<td>and strives for research excellence</td>
<td></td>
</tr>
<tr>
<td>6. Responsibility</td>
<td>Is proactive, independent, self-reliant and takes</td>
<td>D7*</td>
</tr>
<tr>
<td></td>
<td>responsibility for self and others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shows integrity</td>
<td></td>
</tr>
<tr>
<td><strong>2. Self-management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Preparation and prioritisation</td>
<td>Behaviour: Anticipates and responds to directions</td>
<td></td>
</tr>
<tr>
<td>2. Commitment to research</td>
<td>and trends in research</td>
<td></td>
</tr>
<tr>
<td>3. Time management</td>
<td>Plans, prioritises and conducts research in</td>
<td></td>
</tr>
<tr>
<td>4. Responsiveness to change</td>
<td>proactive way</td>
<td></td>
</tr>
<tr>
<td>5. Work-life balance</td>
<td>Delivers research projects and results on time and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>effectively</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develops awareness of, and helps to achieve,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>work-life balance for self and colleagues</td>
<td></td>
</tr>
<tr>
<td><strong>3. Professional and career development</strong></td>
<td>Behaviour: Has a strategic approach to research</td>
<td>D4</td>
</tr>
<tr>
<td>1. Career management</td>
<td>Has focus, commitment and ambition</td>
<td>F1</td>
</tr>
<tr>
<td>2. Continuing professional development</td>
<td>Is flexible and responsive to change</td>
<td>G1</td>
</tr>
<tr>
<td>3. Responsiveness to opportunities</td>
<td></td>
<td>G2</td>
</tr>
<tr>
<td>4. Networking</td>
<td></td>
<td>G3</td>
</tr>
<tr>
<td>5. Reputation and esteem</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Denotes where a Joint Skills Statement (JSS) descriptor has been incorporated into different descriptors within the RDF.

Material from this document may be freely reproduced, in any medium, by UK higher education institutions only, strictly for their own non-commercial training and development purposes, subject to acknowledgement of copyright.

Vitae®, © 2010 Careers Research and Advisory Centre (CRAC) Limited. Please refer to www.vitae.ac.uk/resourcedisclaimer for full conditions of use.
### Domain C: Research governance and organisation

This domain relates to the knowledge of the standards, requirements and professional conduct that are needed for the effective management of research.

<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>Sub-domain summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Professional conduct</strong></td>
<td><strong>Knowledge of:</strong></td>
</tr>
<tr>
<td>1. Health and safety</td>
<td>Health and safety issues, confidentiality and ethical requirements of his/her research field</td>
</tr>
<tr>
<td>2. Ethics and principles and sustainability</td>
<td>The legal requirements and regulations relating to the area of research and the research environment</td>
</tr>
<tr>
<td>3. Legal requirements</td>
<td>The principles of intellectual property rights (IPR) and copyright issues, as they relate to research, its commercialisation and dissemination</td>
</tr>
<tr>
<td>4. IPR and copyright</td>
<td>Organisational and professional requirements and environmental impact of research</td>
</tr>
<tr>
<td>5. Respect and confidentiality</td>
<td>The concept of corporate social responsibility</td>
</tr>
<tr>
<td>6. Attribution and co-authorship</td>
<td></td>
</tr>
<tr>
<td>7. Appropriate practice</td>
<td></td>
</tr>
<tr>
<td><strong>Behaviour:</strong></td>
<td>Respects, acknowledges and attributes the contribution of others</td>
</tr>
<tr>
<td></td>
<td>Seeks to protect, where appropriate, the intellectual assets arising from research and to maximise the wider value of research findings</td>
</tr>
<tr>
<td></td>
<td>Acts with professional integrity in all aspects of research governance</td>
</tr>
<tr>
<td></td>
<td>Uses institutional/organisational resources responsibly and appropriately</td>
</tr>
<tr>
<td></td>
<td>Seeks ways of working in a sustainable manner</td>
</tr>
<tr>
<td><strong>Attitude:</strong></td>
<td>Respects, upholds and meets professional standards and requirements</td>
</tr>
</tbody>
</table>

| **2. Research management** | **Knowledge of:** |
| 1. Research strategy | The contribution of research to the health of disciplines and institutional missions |
| 2. Project planning and delivery | Project management tools and techniques |
| 3. Risk management | | |
| **Behaviour:** | Applies appropriate project management tools and techniques |
| | Sets goals and plans and manages resources to deliver results |
| | Effectively assesses and manages risks |

| **3. Finance, funding and resources** | **Knowledge of:** |
| 1. Income and funding generation | The requirement for research income generation and financial management |
| 2. Financial management | Mechanisms for funding, the range of funding sources and the processes for making applications |
| 3. Infrastructure and resources | Local administrative systems, reporting procedures and infrastructure processes |
| **Behaviour:** | Responsibly manages finances, resources and infrastructures related to research |

*BDenotes where a Joint Skills Statement (JSS) descriptor has been incorporated into different descriptors within the RDF*
### Domain D: Engagement, influence and impact

This domain relates to the knowledge, understanding and skills needed to engage with, influence and impact on the academic, social, cultural, economic and broader context.

<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>Sub-domain summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Working with others</strong></td>
<td><strong>Behaviour:</strong> Actively works in an inclusive, respectful and constructive way with colleagues, stakeholders and research users. Recognises and acknowledges the contribution of others and own part in team success. Builds relationships in academic and commercial contexts; approachable and interacts constructively with others; manages expectations and resolves conflict. Supervises, mentors and develops the potential of less experienced researchers and colleagues through support and advice. Leads, motivates and influences where appropriate; persuades through listening and convincing discussion. Builds and sustains collaborative relationships and works pro-actively to create and develop knowledge with a range of stakeholders, including researchers, funders and users of research. <strong>Attitude:</strong> Respects the inclusive and collegial manner in which researchers conduct relationships within and beyond academia. Recognises the potential for working in sustained partnerships with a range of stakeholders to generate new ideas, insights and maximise the potential for wider societal and economic impact. Respects individual difference and diversity.</td>
</tr>
<tr>
<td>1. Collegiality</td>
<td></td>
</tr>
<tr>
<td>2. Team working</td>
<td></td>
</tr>
<tr>
<td>3. People management</td>
<td></td>
</tr>
<tr>
<td>4. Supervision</td>
<td></td>
</tr>
<tr>
<td>5. Mentoring</td>
<td></td>
</tr>
<tr>
<td>6. Influence and leadership</td>
<td></td>
</tr>
<tr>
<td>7. Collaboration</td>
<td></td>
</tr>
<tr>
<td>8. Equality and diversity</td>
<td></td>
</tr>
<tr>
<td><strong>2. Communication and dissemination</strong></td>
<td><strong>Knowledge of:</strong> Appropriate communication and dissemination mechanisms for different audiences. The importance of engaging in the processes of publication and dissemination of research results and impacts. <strong>Behaviour:</strong> Communicates effectively in both written and oral modes with a range of audiences formally and informally through a variety of different techniques and media. Actively engages in publication and dissemination of research results and impacts.</td>
</tr>
<tr>
<td>1. Communication methods</td>
<td></td>
</tr>
<tr>
<td>2. Communication media</td>
<td></td>
</tr>
<tr>
<td>3. Publication</td>
<td></td>
</tr>
<tr>
<td><strong>3. Engagement and impact</strong></td>
<td><strong>Knowledge of:</strong> Global, organisational, cultural, economic, and environmental contexts, and the wider impact of research. The social and ethical implications of research, and public attitudes to these issues. The range of mechanisms to support knowledge transfer and maximise the impact of research in academic, economic and societal contexts. <strong>Behaviour:</strong> Engages with and shares research through research-informed and student-focused teaching. Contributes to increasing public awareness, engagement and understanding of research and associated impacts. Identifies innovative trends, ideas and applications; is enterprising and entrepreneurial within and beyond academia. Works collaboratively with all stakeholders to create, develop and exchange research knowledge to influence and benefit policy development, society and the economy; seeks new outlets and promotes the application of research in innovative ways. <strong>Attitude:</strong> Appreciates and works with diversity and difference in research and education. <strong>Values:</strong> The contribution of research to teaching and teaching to research. Recognises the importance of accountability of research with regard to social and economic impacts, internationalisation and global Citizenship.</td>
</tr>
<tr>
<td>1. Teaching</td>
<td></td>
</tr>
<tr>
<td>2. Public engagement</td>
<td></td>
</tr>
<tr>
<td>3. Enterprise</td>
<td></td>
</tr>
<tr>
<td>4. Policy</td>
<td></td>
</tr>
<tr>
<td>5. Society and culture</td>
<td></td>
</tr>
<tr>
<td>6. Global citizenship</td>
<td></td>
</tr>
</tbody>
</table>

*Denotes where a Joint Skills Statement (JSS) descriptor has been incorporated into different descriptors within the RDF*