

FACULTY OF ENGINEERING AND PHYSICAL SCIENCES

GRADUATE SCHOOL

**POSTGRADUATE RESEARCH STUDENT
HANDBOOK**

**2008/9 Session
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WELCOME....to the Faculty of Engineering & Physical Sciences

..... which enjoys an international reputation for the excellence of its research work and for the calibre of its staff. In deciding to pursue postgraduate research with us you have embarked on an exciting and rewarding challenge. Our aim is to help you in this challenge in all ways that we reasonably can. We offer a stimulating and supportive working environment and state-of-the-art research facilities, but success in research will ultimately be the reward for your own inventiveness, attention to detail, perseverance and hard work.

The Faculty is large with over 160 academic staff and more than 600 research students. Our interests and activities are correspondingly wide and so our research is structured into smaller, more focussed Research Groups, Centres and Institutes whose size allows more meaningful personal interactions and effective team building. You will more likely than not form your closest friendships and working relationships with colleagues in the research area in which you work. There will, however, be many opportunities for you to gain an awareness of, and benefit from, the broader expertise within the Faculty.

This Handbook provides helpful guidance for new research students. Please read it carefully, as it contains important Health and Safety information and other background material. It will introduce you to some key staff and where to find them, and outline the way in which the Faculty operates on a day-to-day basis. More generally, we aim to provide guidelines for good practice within the Faculty's research community. Text on good research practice within this booklet has been taken and adapted from many sources. Also contained within you will find information relating to the timing and nature of the assessment and review procedures that the University and the Faculty adopts to monitor the progress and development of an individual student's skills and their research project. In this respect, the Handbook should be read in conjunction with the University's General Regulations for Research Degrees.

May I take this opportunity to wish you well in your research studies

Professor Michael J Kearney
Dean of Faculty, FEPS

PEOPLE IN THE FACULTY

The Dean of Faculty, together with the Faculty's Associate Dean for Research, take overall responsibility for the postgraduate research degree programmes and recommendations relating to students on these programmes within the Faculty.

The day-to-day administration of the postgraduate research programmes is co-ordinated through the Faculty Postgraduate Research Office located in Room 19AA02. All general enquiries relating to student registration, fees, supervision, assessment or training should be made to the Postgraduate Research Office in the first instance.

Staff in the Postgraduate Research Office and their responsibilities are:

Postgraduate Research Officer for Electronic Engineering (CVSSP/CCSR/SSC and the ATI EE), Computing and Mathematics	Mrs Noelle Hartley n.hartley@surrey.ac.uk
Postgraduate Research Officer for Physics (CNRP, UMI and ATI) and Engineering	Ms Janette Redman j.redman@surrey.ac.uk

Enquiries relating to research or facilities specific to a given Research Centre or Department can be addressed to the Head or their nominee. Currently, the major Research Centres and Departments are:

Centre for Communication Systems Research (CCSR)	Professor Barry Evans
Surrey Space Centre (SSC)	Professor Sir Martin Sweeting
Centre for Vision, Speech and Signal Processing (CVSSP)	Professor Josef Kittler
Advanced Technology Institute (ATI)	Professor Ravi Silva
Computing	Professor Steve Schneider
Mathematics	Professor Mark Roberts
Physics	Professor Peter McDonald
Engineering – Centre for Environmental Strategy	Professor Matthew Leach
Engineering – Fluids & Systems	Professor John Chew
Engineering – Materials, Surfaces & Structural Systems	Professor John Watts

There are several committees that consider research and postgraduate student matters in FEPS. The Associate Dean for Research chairs the Faculty Research Committee (FRC) that is responsible for making recommendations on research policy and strategy to the Dean of Faculty. The Faculty Postgraduate Research Committee is more directly responsible for postgraduate research training and research student matters and reports to the Faculty Research Committee. The Faculty's Director of Postgraduate Research Studies chairs this committee; the meeting is composed of the Directors of

Postgraduate Research Studies from each Centre and/or Department, as follows (see table). Should you have any issues that you need support with, you can always contact your Centre Director of Postgraduate Research Studies for advice.

Centre/Departmental Directors of Postgraduate Research Studies:

Dr David Faux	ATI
Professor John Illingworth	CVSSP
Dr Vaios Lappas	SSC
Dr David Bradley	Physics
Professor Tom Bridges	Department of Mathematics
Professor Tony Ho	Department of Computing
Professor Zhili Sun	CCSR
Dr Lucia Elghali	CES
Prof John Chew	Fluids & Systems
Dr Julie Yeomans	MaSSS
Dr Matthew Casey	Research Training

The Postgraduate Student Staff Liaison Committee is an important link in providing input of good practice, suggestions, individual or collective difficulties or concerns. Get to know and talk with your Centre representative.

The Representatives for the Centres/Departments are currently: (and please note that this may change).....

Mr Matthew Prior	CVSSP
Mr Neil Bristow	Department of Mathematics
Ms Rafia Mumtaz	SSC
Ms Elizabeth Cunningham	Department of Physics
Mr Allahyar Yarmohammad	CCSR
Mr Max Kah/Mr Charles Opoku	ATI
Mr David Williams/Mr Jonathan Goh	Department of Computing
Ms Alison Armstrong/Mr Il Young Oh	CES
Mr Philippe Lott	Mechanical Engineering
Mr Luke Duncan	Materials Engineering
Ms Tara Raafat	Chemical Engineering
Ms Beste Cubukcuoglu	Civil Engineering

UNIVERSITY INFORMATION & CONTACTS

Please make time to familiarise yourself with the University website and make use of the abundance of information within it that is there for your benefit. The information, as with any website, is updated more frequently than any of our written materials and we therefore encourage you to use this resource to it's full.

All staff are listed on the University email system – and you can discover who is responsible for a particular area by looking at their specific web pages.

If you have any difficulty locating a member of staff or you can't find your way around the website – please do not hesitate to contact the Research Officers in the Postgraduate Research Office who will be able to assist.

Please see www.surrey.ac.uk.

A few wise words on the important subject of safety.....

SAFETY

Levels of danger may be heightened in a research laboratory. Lasers and acids, for example, can cause eye damage. Perhaps the biggest, least glamorous and least discussed danger arises from the tendency exhibited by heavy objects to decrease their potential energy. It is not up to you to decide whether an unchained gas cylinder is more dangerous than a high voltage power supply with an unguarded terminal. They are both potentially lethal. The Faculty Health and Safety Policy and Safety Officer deals with all Health and Safety matters. The rules contained within the Health & Safety policy must be followed. Please acquaint yourself with the information on the University website on this subject. It is compulsory that you attend a Health and Safety briefing when you join the Faculty. Your Research Officer in the Postgraduate Research Office will let you know about your briefing. The University's Radiation Protection Adviser is Penny Giorgio.

Faculty Safety Adviser & Deputies

For information on safety matters in the Faculty, contact Mr Kevin Joyce at k.joyce@surrey.ac.uk. Colin Taylor (deputy) is contactable at c.taylor@surrey.ac.uk. Please contact your Centre Administrator for details of your Centre Safety Representatives. If you have any safety concerns at all whilst you are here at Surrey, please bring those concerns to the attention of your Research Centre Safety Representative.

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APPENDICES

YOU WILL FIND SOME OF THE MORE COMMON FORMS YOU WILL NEED DURING YOUR PHD IN THE APPENDICES:

APPENDIX A – 6 Monthly Progress Report

APPENDIX B – University Annual Review

APPENDIX C – Extension of Registration Form

APPENDIX D – Continuing Registration Form

APPENDIX E – MPhil to PhD Transfer Form

1. GREAT EXPECTATIONS

For the last fifteen years or more, teachers will have told you how the Universe works. With the exception of project work, you may have had little opportunity to explore and to say something new. This will now become a focus for your research: to say something genuinely new - and useful. It is not easy, but it can be fascinating, exhilarating, but also infuriating. The Faculty's academic, research and support staff will do their utmost to make the period you spend with us a success.

Success will depend crucially on you and also on effective interaction with others. A good professional working relationship with your supervisor is key to the research process. Your supervisor will start you off with ideas and a direction in which to explore but is unlikely to know in advance a path to the solution. Finding a satisfactory solution quickly can sometimes involve luck – but we must usually persevere without it. Rarely does a thesis end at a point that was recognised at the start. Indeed, one can and often must redirect one's effort as one learns things along the way.

Research should not demand all of your energy for seven days a week and eighteen hours a day. Having said this, very few researchers operate successfully on a 9 am – 5 pm working day basis. The commitment needed will also change at different times during the research work. The major commitments are needed, not when things are going well, but when they are not.

Research is a distinctly different activity from undergraduate learning. Neither you nor we know in advance how well you will cope with it. Thus, it is essential that we identify any problem areas as soon as possible. This is what the six-monthly and annual progress reviews are for, and the reason for the initial MPhil degree registration. These provide a safety net in the system and the opportunity to flag, identify and correct problems at an early stage. Subsequent sections of this document discuss the Faculty's procedures for monitoring student progress and for providing experienced advice if and when needed.

Research is highly competitive. If you are engaged in an industrial development, the fact that there may be someone doing something very similar in Moscow or in Boston may matter - but most probably it will not. You may be concerned with slightly different problems, or maybe addressing different markets. In developmental work what matters most is that you come quickly to a near-optimum solution. In research, however, there is a real premium for saying it first. You can get a PhD by describing original work that was new at the time you were doing it, even if someone else then published before you could. While this is a PhD success - in research terms, being beaten to publication would be deemed a failure.

In this sense research is tough and competitive. It is important to appreciate however that the competition is with the outside world and not with your colleagues. Indeed, successful research in our chosen research areas dictates that we have several projects in any one area - sufficiently close to foster collaborative work and, above all, collaborative thinking. Related material can

justifiably find its way into two PhD theses. All one needs to do is to indicate the fact that a particular section represents joint effort. In the same way, joint authorship of papers, or patents, is the norm and very much encouraged.

'Publish or perish' sounds like a cynical comment. Yet it is clear enough that discovery without communication can only give self-satisfaction. Publishing is a vital part of the scientific process and of building the scientific reputations of the authors and the research institution. For this reason, any material submitted for publication must first have the approval of the supervisor, whether or not he is a co-author. The reasons are twofold. The first is that supervisors will have good advice to offer. Their suggestions can make all the difference between immediate acceptance and a long-drawn-out battle with referees. The second is the safeguard of the reputation of both the author(s) and the Faculty.

How does one have significant ideas? How does one translate them into significant research achievements? It is difficult to answer these questions. But, there are quite a few aspects of MPhil / PhD work which can make a very real difference to your effectiveness as a research scientist. A number of these are almost trivial and yet their neglect can lead to delays, even to defeat. The aim of this booklet is to draw your attention to such aspects of research activity.

You are entering a community of research workers in a number of related scientific and technical fields. One project is usually linked to others and we can learn from each other, through cross-fertilisation of ideas. It does happen that someone working in an apparently remote field can contribute to your thinking, and vice versa. Your membership of a particular group is important, but we look to you to create the contacts with other groups that will lead to new ideas, notably through attending research seminars, meetings etc.

During your research degree, you will find, if you have not done so already, that the world is an imperfect place. If you encounter difficulties or defects in the system we encourage you to spend some time thinking about the problem, about possible solutions, and to discuss and work with us in finding an appropriate outcome. Your supervisor would normally be the first point of contact in such instances.

2. SUPERVISION AND MONITORING OF RESEARCH

We hope that you will complete your PhD research and thesis in a timely manner and therefore have put in place several schemes, checks and balances, to assist with this. Firstly, your knowledge and experience from undergraduate studies is unlikely to be sufficient to allow you to define a challenging and coherent research programme. We therefore assign you to an experienced academic who will provide initial guidance in this matter. Your supervisor is probably the most important contact in the early part of your studies and it is therefore important to form a successful working relationship with him/her. Sections below discuss in greater detail what can be reasonably expected from both parties in the relationship. You are also assigned a second supervisor whose role in some instances will be to provide additional specialist expertise in support of your project. In other cases the second supervisor may be less actively involved in

your day-to-day supervision but can, and should be consulted for advice on more general research and training issues.

Secondly, it is essential to periodically review progress. It is all too easy to get lost in the day-to-day concerns of a research project and thereby lose sight of the bigger picture. It is therefore a University requirement that you complete an Annual Progress Review and a Faculty requirement that you complete intermediate six-monthly Progress Reports. The Postgraduate Research Officers will email you at the appropriate time for completion of these reports. Both you and your supervisor are asked to comment on progress and agree targets for future work. It is intended that this process will raise any long-term problems or dissatisfaction on the part of the student or the supervisor. Copies of these review forms are included as an Appendix for your information.

2.1 The Supervisory Relationship (.. or you and your supervisor)

The supervisory relationship is one of the most crucial ingredients underpinning the success of a research degree. The supervisory relationship is two-sided, with obligations on both the supervisor and the student. Like any extended relationship, it has to be worked at and nurtured. It is therefore important to establish clear and explicit mutual expectations in order to minimise the risks and possible difficulties of personality clashes. In order for the working relationship to be as effective as possible, it is a requirement that you meet with your supervisor at least once a month to discuss your progress to date and future plans. This will afford the opportunity to set out joint expectations and to agree working practices.

2.2 Responsibilities.... your Supervisor's

Whilst recognising that the end point of your research - the thesis - must demonstrably be your own work, your supervisor will:

- i) give you guidance about the nature of research and the standards expected, about planning your research programme realistically, about the availability of and access to literature and other sources of information, and about the difficulties associated with plagiarism;
- ii) agree with you at an early stage in your registration a programme of support and training designed specifically for your needs and to suit your particular area of research. The programme may include, for example, attendance at advanced undergraduate or postgraduate courses offered within the Faculty, elsewhere in the University or possibly at another institution, as appropriate. Training courses and information are provided in the Faculty Postgraduate Research Training Handbook;
- iii) at an early point in your registration, work through with you any costs associated with your chosen research project/design. The supervisor will be responsible for the finances of your project;
- iv) arrange with you a programme of regular tutorial and seminar meetings in order to maintain effective oversight of the research project and of your progress generally;

- v) ensure that you are aware of your responsibilities in terms of health and safety;
- vi) make him-/herself available to you at other appropriate times when you may require guidance or advice;
- vii) give you detailed advice on the various stages of your work, completion dates and requirements with the purpose of helping you to progress without undue hindrance through your project and to submit your thesis within the mutually expected timescale;
- viii) request written work from you in order to discharge his/her responsibilities to the Head of Faculty under the University's General Regulations for your progress and for consideration of transfer of registration, where appropriate, from MPhil to PhD (see section 3.7). Written work will be returned in a reasonable time with constructive, written criticism;
- ix) arrange, as part of your research (and communication) training, opportunities for you to present your work and interim results to graduate and/or staff gatherings. Occasionally this may include presentations to others outside the Faculty or to visitors;
- x) ensure that you are kept fully aware of your progress and, in particular, if your progress gives cause for concern or if your standard of work falls below that generally expected;
- xi) normally be present at your viva voce examination;
- xii) be sensitive to the problems of adjustment you may encounter in the UK system of higher education if you have not received your secondary and previous university education in this country. Your supervisor will be able to give you assistance if you encounter language difficulties and advise you where to seek professional help if necessary.

2.3 Responsibilities...Yours

As a research student, you too have responsibilities to your supervisor. You should:

- (i) ensure that you fully understand and follow the regulations governing the MPhil and PhD degree programmes. The General regulations are available in the University Calendar:

<http://libweb.surrey.ac.uk/calendar/cream/index.htm>

<http://portal.surrey.ac.uk/calender/generalregs/index.jsp>

- (ii) attend diligently to your studies and work in the Faculty for the majority of your time. Generally, most groups permit flexible working hours but you should establish a predictable working pattern so that your supervisor or other people who may need to contact you can do so at short notice. If you are to be absent even for a single day then your Centre Administrator should be informed.

- iii) ensure that you fully understand the obligations on both you and your supervisor by discussing the supervisory relationship with your supervisor at the

earliest opportunity. If there are aspects which you do not fully understand, talk them through with your supervisor;

iv) discuss with your supervisor the type of guidance and comment you would find most helpful and agree with him/her a programme of study and background reading which best suits your needs in the light of your previous education and your proposed research project. Meetings with your supervisor are an important part of your research and provide an important opportunity for you to discuss the project and your progress with your supervisor(s) and plans for the coming period. Initially, this should be typically a 1 hour weekly meeting to enable you to settle in. Once you feel comfortable and the project is well established, this timetabled meeting should continue although it may be cancelled by mutual agreement if there is no business to be discussed. However, it is absolutely essential that you have at least a monthly meeting with your principal supervisor to review progress and agree aims for the coming period.

v) at an early stage you may be expected to cost out your project with your supervisor but, if subsequently you run into financial or cash-flow difficulties, alert him/her as soon as possible - he/she may be able to plead your case for additional funds or to assist in other ways;

vi) take the initiative in raising with your supervisor any problems or difficulties which you may encounter, however trivial at the time these may appear. Your supervisor's time is not limitless and there may be occasions when he or she may simply not be available. Within reason, however, every effort will be made to meet with you as and when necessary;

vii) ensure that you attend agreed scheduled meetings and maintain the progress of your work in accordance with the stages agreed between you;

viii) under the University's General Regulations for Higher Degrees, your supervisor is responsible to the Dean of Faculty for your progress and is required to submit written reports at six-monthly intervals. It is in your interests to ensure that you submit the necessary interim reports on your work by the specified deadlines;

ix) when the time comes, decide whether you wish to apply for transfer from MPhil to PhD or to submit your thesis for either award. Your supervisor will express an opinion but this is advisory only - the decision to apply for a transfer is yours.

2.4 Responsibility to Others

In addition to those responsibilities you have to your supervisor, you also have responsibilities to those around you and with whom you may be working as part of a team. To this end, ensure that:

(i) you have regard for the safety of yourself and others; be familiar with the University's Health & Safety policy;

(ii) from time to time you may receive privileged information about, for example, commercial processes. Companies with whom we co-operate are entitled to expect us to respect confidences. Absolute discretion and integrity

must be maintained - it is not up to us, or the information-giver, to judge whether passing on the information, in any given case, is harmless or not;

iii) from time to time, it may be necessary to share equipment with other researchers. Be sensitive to their needs as well as to your own, try to be flexible in your requirements and tolerant of what to you may appear to be intolerance on the part of others;

iv) and for the benefit of others, if not yourself, try to ensure that the chaos of paper, materials and/or equipment which may be generated by your project is contained within bounds.

2.5 Grievance Procedures

The relationship between supervisor and student and between a Faculty and student is often a close and beneficial one but, from time to time and for a myriad of reasons, the relationship may become difficult. Often a difficult relationship can be attributed to deficiencies in both parties - try to resolve them between yourselves in the first instance and bring any difficulties into the open. However if this is not possible you should take your concerns to either your Centre Director of Postgraduate Research Studies, Head of Centre, or to the Associate Dean for Research, as appropriate. These staff are introduced in this Handbook. You also have the opportunity to raise any difficulties in the six-monthly progress reports or at the Annual Review Stage.

Broadly speaking "grievances" may be divided into the following categories. The suggested routes for dealing with each of these, within the Faculty, are as follows:

- (i) concern relating to the general content and / or general administrative arrangements associated with programmes of study within a Faculty.
[General academic or administrative concerns relating to a programme of study should be raised at staff student liaison committees and/or the appropriate Faculty Postgraduate Research Committee via the student representatives. Issues relating to a particular module/unit may be raised directly with the lecturer(s)/co-ordinator(s) concerned. Course/module evaluation forms provide further opportunity on a confidential basis to identify aspects of particular courses with which students are dissatisfied. If dissatisfaction persists, the supervisor or Director of Studies can be asked to intervene.];
- (ii) grievance relating to examination and assessment
[Concerns arising from examination procedures or about decisions relating to a student's progress arising from examination and assessment procedures should be addressed to the person

identified in the Programme Handbook; this might typically be the Director of Studies, Head of Department or Dean of Faculty in the first instance. Thereafter, a student should be referred to the Calendar or Student Handbook in which Appeals procedures are published within the appropriate General Regulations governing their programme(s) of study.];

- (iii) grievance or complaint about the nature and quality of general services and facilities provided centrally by the University *[Students should be referred to the University's Complaints Procedure. A Guide to the Complaints procedure is available from the Student Advice and Information Centre and the Students' Union. The Guide also provides information on sources of advice about the procedure.];*
- (iv) grievance of a personal nature *[Paragraphs 2.5.1 – 2.5.6] below relate specifically to grievances of a personal nature that may arise from difficulties, for example, with other students, with members of staff, with the student's own supervisor or from inequality of treatment or other forms of discrimination.]*

2.5.1 Grievances of a personal nature should, in the first instance, normally be taken up directly with the student's supervisor, who will bring his/her best efforts to bear with appropriate University colleagues to resolve the matter with or on behalf of the student.

2.5.2 If the grievance cannot be resolved satisfactorily directly with or by the supervisor, an approach should be made to the Director of Studies or Dean of Faculty*, as appropriate, setting out in writing the difficulties which are unresolved. The Director of Studies or Dean of Faculty* will discuss the matter with the supervisor and with the student with a view to finding a resolution.

[Faculty/Programme Handbooks will make clear whether the Dean of Faculty or, by delegation, the Director of Studies or other designated person (or both/all, in a hierarchical system) will assume this responsibility.]*

2.5.3 In the event that the grievance arises from the working relationship with the supervisor, the matter should normally be raised directly with the supervisor in the first instance with a view to resolving the matter.

2.5.4 If a resolution cannot be found, an approach should be made to the Dean of Faculty, who will discuss the matter with the student and the supervisor with a view to finding a resolution. The Dean of Faculty may,

inter alia, make arrangements for the student to be assigned to another supervisor.

- 2.5.5 Where the supervisor is also the Dean of Faculty, the Dean of Faculty will identify a named deputy+. Under these circumstances the student should approach the deputy. The procedure outlined in paragraph 2.5.4 will be followed by the deputy.

[+ The Dean of Faculty will appoint a deputy for this purpose whenever, and at the point at which, he/she acts as a supervisor.]

- 2.5.6 If the student is not satisfied with the way the grievance has been dealt with (as per 2.5.2) he/she may seek an appeal of the decision by lodging this with the Dean of Students within 10 working days of receiving the outcome of their grievance by the Dean of Faculty. However if the grievance has been upheld and/or the student has accepted redress (either non-financial or a financial settlement) there are no grounds for appeal. The grounds on which a grievance may be reviewed are restrictive, and cover the following circumstances:

- a) procedural irregularity;
- b) that the decision was perverse in that it was one which no reasonable person could have reached on the available evidence.

Note: Whilst complainants whose complaints are not upheld or only partially upheld may feel dissatisfied, being dissatisfied with the outcome is not of itself a ground for appeal.

If the Dean of Students considers that the student has valid grounds for the progression of an appeal, he will convene a Review Panel to adjudicate on the case. If it is decided that the grounds for appeal do not accord with those prescribed, the Dean of Students will inform the student of that decision and the reasons in writing, normally within 10 working days of receipt of your letter.

- 2.5.7 A Review Panel will consist of two members of the Executive Board, not previously involved in responding to the complaint, and a representative from the Students' Union, and may either conduct its business by correspondence or at a meeting.
- 2.5.8 It is expected that every effort will be made by the parties concerned to resolve an issue by mutual agreement.
- 2.5.9 Leaflets detailing the Complaints and Grievance procedures and Academic Appeals procedures are available from Faculties, the Student Advice and Information Service, the Registry and on the University web site at:
<http://portal.surrey.ac.uk/registry/qaeo/complaints> or
<http://portal.surrey.ac.uk/registry/qaeo/appeals>

2.6 Mitigating Circumstances

The University General Regulations allow the Faculty to consider genuine and verifiable extenuating or mitigating circumstances which may have prevented a student from submitting a piece of work or which may have affected performance and/or progress in their research or examination, or that may result in the need for consideration of an extension of their period of registration.

In the interests of common understanding, the University has drawn up notes of guidance for students on the principles that underpin its consideration of mitigating circumstances, what it regards as acceptable mitigating circumstances, and the sort of supporting evidence that the University will consider to be acceptable. These notes of guidance are available in the University Calendar, Section D, Appendix V11C).

You should also refer to the guidance provided by the University's Health Centre on what it will and will not provide in the way of medical certification. Again, information about the Health Centre is on the website.

2.7 Academic Appeals – A Guide for Students

Whereas grievances may take a variety of forms ranging from personal grievances to complaints about administrative arrangements or services, the appeals procedure is concerned solely with the result of a student's examination. Further information can be found in the Code of Practice for Research Degrees, Section 8.

2.8 Academic Misconduct

The University defines academic misconduct or fraud as committing an act whereby, in the course of their studies, a student knowingly and deliberately seeks to corrupt, misrepresent or to falsify the outcomes of academic study, scholarship and/or research. The University reserves the right to identify and define different forms of academic misconduct or fraud from time to time: however, the University generally takes them to include:

- misrepresentation of the work or expressed thoughts of others as one's own without permission or acknowledgement (plagiarism);
- fabrication of:
 - The results of work which he/she falsely claims to have undertaken (for example, experiments, interviews, observations or other forms of research and investigation);
 - Results which he or she has not obtained;
 - Results by omission from analysis and publication of selected components of a data set;
- deliberate exploitation of ideas and concepts of others without acknowledgement;
- cheating or otherwise disclosing information with the intent of gaining for oneself or for another an unfair advantage;
- impersonation of another candidate or knowingly to allow another candidate to impersonate him/her in an examination;

Any cases of alleged academic misconduct or fraud will be referred to and investigated by the Faculty in consultation with the Dean of Faculty, the University Academic Registrar, and the Student Progress and Assessment Board (Research). Further information can be found in the University Calendar, Section D, Appendix VC.

2.9 Plagiarism

The University treats plagiarism very seriously and any student found guilty of committing plagiarism will be subject to the penalties set out in the University's Regulations for the Conduct of Examinations and other Forms of Assessment.

As part of a research degree programme students are required to submit various types of report for progression and assessment (including progress, laboratory and transfer reports, computer programs, and finally the thesis). Whilst researching work students will, of necessity, read other people's work in books, journals, conference papers and lecture notes and therefore students should be aware that plagiarism occurs in the following cases:

- (a) reproduction of all or part of the work of any other student or external author,
- (b) inclusion of portions of another text in your own work,
- (c) copying of phrases or sentences, or direct paraphrasing of these,
- (d) copying previously assessed work of your own without the agreement of your supervisor.

In many cases it is necessary to include quotations, sentences and paragraphs of other people's work, be it published or unpublished, in order to highlight a particular point. In such cases, any included text from another source (apart from that containing common knowledge) must be indicated by quotation marks or indented paragraphs that clearly identify the exact extent of this 'borrowed' text, together with appropriate references.

Students who knowingly attempt to submit other persons' thoughts, writings, arguments or ideas as if it were their own work, without explicit acknowledgement of the source and the extent of the quotations, are considered to be guilty of plagiarism.

The act of submission of work will be taken as an implicit declaration by the student that the submission is wholly the student's own work and that all material attributable to others has been clearly identified and fully acknowledged and referenced to its original sources.

Plagiarism is defined by the Shorter Oxford English Dictionary as *"the act of taking and using as one's own the thoughts, writings or inventions of others."*

It is an act that is not academically acceptable and is regarded by the Faculty and the University as a very serious offence. The University's Code of Practice for Research Degrees (reproduced elsewhere in this Handbook) identifies plagiarism as academic misconduct and emphasises that the penalties that may ensue if plagiarism is proved to have taken place are

extremely serious. The Code also notes that ignorance of the issue of plagiarism is not considered a defence.

To learn what previous work has been done within your research area, you will of course have to read books, journals, proceedings of conferences, *etc.* in order to accumulate the relevant information and insight. **To avoid plagiarism, you must treat the information carefully when you write about it.**

Your submitted thesis must be in your own words. **It is not acceptable to copy text verbatim from someone else's work** except, very rarely, in the special circumstances described below.

It is of course essential to refer to the work of others, particularly within the literature review that is a key component of every thesis. However, when you incorporate others' opinions or findings within your work, **the text and style must be your own**, not those of the original author(s), and you **must** give a reference to the source.

For example, in their conclusions to a paper in 1996 reporting an experimental study of a plume in a crossflow, the authors Savory, Toy and Ahmed wrote:

"The data obtained from the plume/crossflow interactions show that far downstream from the exit the main parameter influencing the potential flow quantities (circulation and vortex doublet strength) is the velocity ratio."

If part of your thesis had to mention this paper, then **you** might legitimately write:

'From their experimental study of the interaction between a plume and a crossflow, Savory *et al.* (1996) concluded that the velocity ratio was the principal parameter influencing the potential flow quantities (circulation and vortex doublet strength) at points far downstream from the exit.'

Your reference list would have to include the complete reference to the original paper, *viz.*:
Savory, E., Toy, N. & Ahmed, S. (1996)
Experimental study of a plume in a crossflow Journal of Wind Engineering and Industrial Aerodynamics, vol. 60, pp.195-209

Very rarely, but on some occasions, it may be necessary to reproduce the words of the author exactly, because the statement in the original work is of such importance, or is phrased in such a particular way, that to rewrite would lose the meaning or destroy the significance of the statement. In such cases, the text quoted **must** be enclosed between quotation marks. If it is typed, then the fact that it is a direct quotation can be emphasised by using italics as well as quotation marks.

Often you will find it desirable to include a table, diagram or picture from someone else's work. This action is acceptable **only** if you acknowledge the source. For example, if your thesis includes a diagram reproduced from a certain textbook, then you might legitimately provide the following caption:

Figure 13. Typical relationship between B and the degree of saturation (after Craig, 1997).

You must then include the complete reference to Craig's book in your reference list, namely:
Craig, R.F. (1997) *Soil Mechanics* London, Chapman & Hall, 6th edition, pp.143

Referencing work of others

References are an important part of any piece of scholarly work. It is important for students to know how to acknowledge other people's work. References should be able to guide the reader to additional background information that is relevant to the report being written. For acknowledging a reference the usual method is to add a number either as a superscript or in the text close to where it is appropriate. For example:

The tunnelling of electrons in semiconductors was first reported in the late 1950s [1].

and details of [1] should be given in the reference list at the end of the chapter/report. The following are appropriate examples:

Books:

Adams, R *et al.*, **Organic reactions**, vol. 1. New York: Wiley, 1942
(*et al.* indicates that there are other authors. If there are only two authors you should give both names.)

Articles in Books:

Mann, S H, The use of social indicators in environmental planning. In:
Altman, I and Wohlwill, J F, eds., *Human behaviour and environment: advances in theory and research*, vol. 2. London: Plenum, 1977. pp 307-330.

Articles in Journals:

Rostow, W W, The take off into self-sustained economic growth. *Economic Journal*, 66, 25-48, 1956.

Theses:

Hargreaves, E, The tensile deformation of oriented polyvinyl chloride and oriented polyethylene, PhD thesis, University of Surrey, 1970

3. SPECIAL NEEDS AND ADDITIONAL LEARNING SUPPORT

Please contact the Postgraduate Research Office if you think you may have, or know you have, a special educational need or disability.

If you have any special needs (e.g. if you are partially sighted or are dyslexic) then in order for you to make the best academic progress you can, it is important that we know about them. For any student wishing to disclose a special need, a form will need to be completed at the start of your MPhil/PhD programme. This 'Disclosure of Disability Referral form' can be found in your Induction Pack. If you would like copies of this form since starting your PhD please contact the Research Officers in the Postgraduate Research Office.

Further details on special needs arrangements can be found on the University website.

4. PROJECT ORGANISATION

The research process is rarely one-dimensional. More usually, starting from a specific point, the problem that you are addressing is seen to fall into a number of separate issues. Moreover, you may encounter quite new issues that may absorb a portion of your efforts. At any given moment, you may be planning several different experiments or tackling several theoretical problems. The experiments may require a variety of different actions on your part, ranging from design to the ordering of components. What is the most important action to take NOW? It is not a trivial problem. Very few people are able to keep all the critical issues in mind - and arrive at an optimum order of actions without any conscious effort. Some form of longer term planning is enormously valuable.

While there are no hard rules as to individual student progress, as a PhD timetable we suggest the following as a guide to anticipated progress. We suggest:

First Year: acquire a good knowledge of your experimental or theoretical tools, and of the literature in your field. By the end, you should have a clear idea of what your PhD research programme will be and should be thinking of about MPhil-PhD transfer.

Second Year: you should be obtaining good results and writing some up for publication and presentation at conferences.

Third Year: at the start, you should be putting pen to paper for your thesis already. By the middle of the year, you should be writing a thesis based on your past work, and doing only such further work as the act of writing makes you realise is necessary. The thesis should be submitted in August and the viva held in September (or earlier). Slippage by up to twelve months, for good reasons, is tolerated by the Faculty, but no longer.

Afterwards: We hope there will be further papers to write up for publication.

4.1 Planning

How should one do this? People write books on it, hold international conferences - the full sound and fury of mathematics, decorated with lemmas is brought to bear on the problem. Some people even get PhD's for thinking it out. But, we are not designing a new town, or starting up a new institution. We can adopt the simplest method. The basic step is to write down a list of all the tasks that you propose to tackle in the foreseeable future. To be of real value, the list must be very detailed. Having noted down your intentions to carry out an experiment, break this down into subtasks, such as design, ordering, testing, subsections, etc. - and in agreement with your supervisor!

Next, one presumes that you ought to do something with this list. In fact, this is not absolutely essential. The mere act of compiling will have brought the most substantial benefits. Hopefully, you will have noticed that you will not be able to start your experiment if, say, component B has not arrived. If you do no more - but do it regularly - you will probably manage well enough. Yet, one should advocate taking matters one-step further - to attempt a prediction in time.

A simple chart (shown below) can be quite useful. The ends of a line denote when you propose to start, and when to finish, a task. If a particular task can only proceed after the completion of another, the two are linked by a dotted line.

Task	Week 1	Week 2	Week 3	Week 4	...	Week N
A						
B						
C						
D						
E						

There are two possible benefits from carrying out this exercise:

- (i) You get more guidance than from a list as to what to do first.
- (ii) By comparing your predictions with the actuality, and doing this month after month, you will improve your ability to predict the actual time that a given problem would take. (A general, though approximate rule is that theoretical work takes 'e' times the predicted period, experimental work $\frac{1}{4}$ ' times.)

4.2 Memoranda

When you have an idea, the outlining of a theory, the beginning of an experimental base, do not wait for total illumination before committing it to paper. Write a memorandum; even if a couple of weeks later you may wish to amend, or even eat your words. Why?

- (i) The act of writing out your story is one of the best ways of clarifying the issues in your own mind.
- (ii) The memos will increase interaction with your supervisor.

(iii) It is good practice for acquiring the art of telling how it is. It also means that you are writing first drafts of your thesis as you go along.

(iv) It helps the patent situation, (see Section 11).

4.3 Work Notebooks

Keep one. Include in it records of ideas, proposed experiments, all relevant memos to / from others (e.g. supervisors), experimental results, photos, etc. Date every entry and, in the case of experimental work, make a real effort to record all data that could conceivably be relevant. Do not record data on odd sheets of rough paper with the intention of filling in 'later'. Often, the significance of an experiment (whether it appears successful or otherwise) is not appreciated at the time. If you have a good record, you can go back to it.

The exact form of the notebook is something you should discuss with your supervisor. I would, however, like to make a case for using a fixed leaf, rather than a loose-leaf form. This is in line with normal procedures in many US University and industrial laboratories. The main reason is relevant to patent applications, (see Section 11). In addition, it enforces the extra discipline in one's working habits. (The fixed leaf form does not stop you from including loose-leaf materials. You simply stick it onto the fixed page.) If it is something that is conceivably critical, from a patent point of view, it can be signed and witnessed. Such notebooks do not have to be pretty - just clear. Also, they do not have to be correct. If something is wrong, you can refer to the gaff and correct it on a later page.

Finally, whatever you do, always keep duplicates (carbons, photocopies, computer discs and print-outs) of any critical results / findings. Keep one set in a place other than where you keep the main notebook. Books do get lost (or flooded, or burgled, or burned). There was a case in recent time, where a student lost the results of two years' worth of work, when almost ready to write a thesis ... Also regularly make back-up tapes / discs of your work on your personal computer, or at least produce a hard copy at regular intervals. As always prevention is much better than cure!

4.4 Finance

The responsibility for financing your project falls on your supervisor. Nevertheless, it is very desirable that you are aware of the funds available and that you act responsibly in spending them. You can do this if, and only if, you keep approximate records of expenses incurred during your work. We have to work within certain constraints. However, if you feel that your project is in cash flow trouble, it is important that you discuss this fully with your supervisor. He can either obtain more money, (with much sweat of brow), or you can together slightly redirect the project aims, to steer round the obstacle. It is not a good idea to proceed with inadequate tools.

4.5 Publications policy

Publishing papers is an essential part of research. However, any material submitted for publication by students must first have the approval of the supervisors, whether or not they are co-authors. There are two reasons for this rule. The first is that supervisors are more experienced. Their suggestions can make all the difference between immediate acceptance and a long-drawn-out battle with referees. The second reason is that the reputations of the authors, of the Department and of the University have to be safeguarded.

4.6 Library Resources

On arrival all students will be given a letter from the University Registry that they can take to the library to apply for a campus card. This card will also act as your library card. A password will be required in order gain access to electronic journals etc. Collaborative and part time students should be able to gain access to the library even if they are not on campus and if you contact the Library they should be able to provide you with information on how to obtain a user name and password. Information about the Library can be found on the University website.

The Researchers Companion (accessed from the Library web pages) is designed to assist research students in carrying out searches for sources on the internet or on specific on-line databases. As well as general guidance, the site includes interactive exercises for users to assess their skills in performing searches, and contains live links to relevant websites. At present the site has subject specific information in seven areas including Electronic Engineering.

4.7 Online Learning

The University has invested in an online resource to allow students to develop their IT skills with a number of Microsoft packages including Word, Excel, Access, PowerPoint, Outlook and Internet Explorer. This material is available to students both on and off campus on the website under the Computing Services pages.

5. VISITORS

The university is a part of the 'Open Society'. With the smallest of reservations, we are open to the world. We have quite a lot of visitors, who come to see us with various purposes in view. Obviously, a particularly important class of visitors are those who are funding some of our research, or, where there is a reasonable hope that they might, in time, be persuaded to do so. It is not easy to obtain support; the academic staffs have to talk to a great number of people with only a low statistical chance of success. A second class is broadly made up of workers in our field from other institutions with whom a real interchange of ideas and information is possible. Then there are eminent people whose activity is more general, but who may nevertheless display very real interest. Also, their judgement of our activities contributes to the general assessment of our capabilities which is of importance to all of us, now and even when you have left the place. We must include colleagues from our Faculty. One does not

automatically find out what others are doing - we would encourage you to visit them and find out.

You will often be called on to talk to these visitors, to explain what you are doing - and why. The total demands on your time averaged over a year, arising from this source, would not be a significant portion of your working day. Unfortunately, visitors do not come uniformly spaced in time. They do not even come with a simple statistical probability. They tend to be sharply bunched to the days on either side of conferences in the UK, or in Europe. There may be days when their presence is seriously disruptive. But we would, nevertheless, like you to think of this activity as being part of your job - as indeed it will be when you leave here and go into any other industrial or government laboratory. The need to communicate with the outside world is an inherent and necessary part of the research process.

It is not essential that you are available for all the visitors we receive. There will, however, be occasions when your presence is desirable and, in other cases, essential. In that event, we feel that you should regard this task as taking precedence over all else - say, roughly, the way we expect the academic staff to view their lecturing commitment. We do cancel a lecture now and again when there is a force majeure. However, we try to arrange an alternative lecturer and plan this well ahead of time. We perform with colds and coughs, if we can still speak - sometimes even when we cannot.

Wherever possible, we will give you some background on visitors - what they know, whether they are sharp or blunt. You should learn to pitch your story at different heights, depending on your audience. Almost all research projects can be explained to 'A'-level students (another important class of visitors) if you use the right form of words. If you are face-to-face with an expert, you should still start with the simple picture of what you are doing, but obviously you can rapidly get into the depth of your subject. The art of communicating with visitors is not easy, but it is worth learning. If you should go into industry, you might well have to explain your work to a very bright patent agent one day, a research worker in the same field the next, and to Lord ***** of *****, a part-time member of the Board of Directors, on the next day. Each discussion may, in some sense, be of comparable importance.

In order to discuss your work effectively with a visitor, you need some visual material. In some cases others might explain your work in your absence - and they will need it all the more. It is for this reason that it is vital that you have some propaganda posters (or display boards) permanently mounted on the wall near your bench / desk.

6. MONITORING RESEARCH STUDENT PROGRESS

The main milestones for a full-time student (aimed at completing the PhD programme within three years) are outlined below. The research staff in the Faculty registered for a higher degree on a part-time basis will be expected to follow the same programme as full-time students, as they are pursuing research on that basis.

6.1 Six-Monthly Reports/Annual Review

The University and Faculty require an Annual and Six-monthly Progress Review meeting to take place. The purpose of this procedure is to (i) provide formal academic feedback to the student and (ii) to provide a mechanism for reporting progress and concerns of the student or supervisory team to the Faculty and, if necessary, to the Student Progress and Assessment Board for Research, SPAB(R).

The reviews of progress need to be recorded on the standard University pro-form (available from the Postgraduate Research Office) and is a requirement for all students. The form, except for any confidential comments, will be retained on the student's file.

The Annual Review is in two parts. The first part is to be completed by the student and the second part by the principal supervisor. At the progress review meeting (to be arranged between you and your supervisor) the report will be discussed with the principal supervisor, student and if applicable the co- and collaborative supervisors, who will complete Section 3 of the report. Both the principal supervisor and student should keep a copy of the report.

Once the progress meeting has taken place the report should be signed by all parties and sent to the Postgraduate Research Officers, Faculty Postgraduate Research Office. The Head of Centre will then complete section 4 and the completion of the review is reported to SPAB(R). Failure to complete and return these reports may result in your registration being terminated.

7. Literature Search

This is a major topic, which should be discussed in detail with your supervisor. At this stage, one can only make a simple comment: if you do not know the literature, you will risk simply repeating results already obtained by others - if you embed yourself too deeply in the literature, you will risk running short of time to do anything original yourself.

7.1 Transfer Report

An important reporting period for you will occur in your second year of research. At any time, beginning at the end of your first year, you will be expected to submit a significant progress (or transfer) report. The report, of recommended length 20 A4 pages (maximum length 30 A4 pages) will be the subject of a 'viva voce', often referred to as the Transfer Panel Meeting, during your second year of research registration in the Faculty. In this report, you should identify a specific research area for future work, and include information from a significant literature search, to show that you are familiar with previous work in the area. You should also demonstrate that you have an appreciation of major issues related to your research, and that you are able to structure this knowledge for both written and oral presentation. By that time you should have performed some initial (theoretical and/or experimental) investigations, analysed the results and generated ideas for future work as well. In general, the timescale for part-time students is extended by a factor of 1.5.

The supervisor, together with an independent examiner and an independent chairperson, will assess and make recommendations on the outcome of the Transfer Report and viva voce examination. A favourable recommendation from the examiners may be used as the basis for recommending transfer from MPhil to PhD registration. If the examiners are not satisfied with the major report, the candidate will be expected to resubmit the report within a period determined by the Faculty Research Committee in consultation with the supervisor. This period will normally be less than six months. If after that period a satisfactory report has not been produced, the candidate may be recommended to submit for an MPhil degree, or withdraw from the course. The form used in making the recommendation on the transfer process is included in Appendix E, for information.

Two most important steps in your PhD programme are the MPhil to PhD transfer and the submission of your research thesis. Some additional important hints on preparing for these two steps will therefore be discussed separately and in greater detail in Section 8.

The above should be read in conjunction with the Code of Practice for Research Degrees, where the process is more fully detailed. The MPhil/PhD Transfer Process is in section 14.

7.2 Student Seminars

In addition to progress reports, you will be expected to present your work in at least one seminar organised within your Centre or Group.

7.3 Temporary Withdrawal

There may be occasions when you need to temporarily withdraw from your research degree – the University accepts that such situations arise. If you consider that you need time away from your work, please discuss your circumstances with your academic supervisor and arrange for completion of the relevant paperwork (status change form) for submission to the Postgraduate Research Office. For information on how long you may suspend your studies for please refer to the University Calendar.

7.4 Continuing Status

Students on continuing status are no longer researching their projects and are at the writing up stage of their thesis. They therefore do not require the same level of supervision as other students as they are deemed not to be using University facilities. They are thus able to pay much lower fees. If you wish to be considered as a continuing student then you must speak with your supervisor in the first instance and then complete a copy of the Continuing Status Request form, which can be obtained from the staff in the Faculty Postgraduate Research Office. A copy of the form and the eligibility criteria can be found in Appendix D.

On the recommendation of a Faculty and with the support of the collaborative organisation, SPAB(R) may permit a collaborative student registered for the Degree of Master of Philosophy or the Degree of Doctor of Philosophy, who has

completed his or her research and has embarked upon writing up the thesis, to transfer registration to that of a continuing student earlier than the minimum periods indicated in the University Calendar.

7.5 Extension of Registration

If you feel that you will not be able to submit your thesis before the end of your final year of registration and have an adequate reason for not having been able to complete on time, you will need to make a request to extend your registration. If you do not do this before the end of your registration then once your registration expires you will no longer be registered as a student of the University. Extensions exist for students in genuine difficulties and must not be used simply to compensate for lack of effort.

A copy of the form can be obtained from the Faculty Postgraduate Research Office and a copy can be viewed in Appendix C. In order to complete this form you need to explain your reasons for being unable to submit within the maximum registration period and set a detailed revised timetable for submission of your thesis within the period of extension for which you are applying. Your supervisor and Head of Centre should then sign the form before returning it to the Faculty Postgraduate Research Office for signature by the Associate Dean for Research.

8. THE MPhil/PhD TRANSFER REPORT & PhD THESIS

8.1 MPhil to PhD Transfer

As was mentioned above, all students normally begin as being registered for an MPhil degree. The reason is simple - one begins with a limited commitment prior to discovering whether your particular mix of abilities matches the requirements and skills of a research scientist. Without prior research experience, neither you nor we can make an informed judgement. The MPhil to PhD transfer normally takes place in the second year of research. Primarily it is a mechanism to check your progress and then make an informed judgement, based on the work presented, of the expectation that you will be able to produce work of the appropriate quality for a PhD within an appropriate timescale.

Prior to the transfer, all MPhil students will have reviewed their achievements within the six-month and annual progress reviews, and your supervisor(s) should have indicated their opinion on your rate of progress. Remember that while your supervisor can help you judge your rate of progress; you are the one who has to make the progress. The longer you take to complete, the more likely you will be to run out of funds or suffer financial hardship. It is usually very difficult to get additional support beyond the third year of study.

Prior to, and as part of the transfer process, you must write a Transfer Report. The exact form this takes is a matter to be discussed with your supervisor; however it must include the following:

- (i) the aims and objectives of your research project;
- (ii) an overview and assessment of past work in the field;

- (iii) a critical assessment of your own achievements to date;
- (iv) your aims for future work in relation to your PhD, and evidence of a considered time plan for pursuing this future work.

It is important to appreciate that this report is not intended as an early draft of your PhD thesis, although components of it may be developed subsequently. Its purpose is to decide whether we should encourage you to advance towards a PhD. It is easier to assess your achievements and your plans if you keep this concise, and therefore your report should not normally exceed 30 A4 pages in length, with diagrams. In many cases a shorter document may suffice. Once the Transfer Report is submitted, an oral examination will be arranged conducted by an examiner not associated directly with your project, your supervisor, and overseen by an independent chairperson. This Transfer Panel will make a recommendation on transfer to PhD registration.

The value of this procedure transcends that of assessing research promise and ability. It is a chance for you to practice, on a small scale, the writing of a clear, integrated account of your work. It also gives you practice in the nature of an oral examination. You also have the opportunity of receiving valuable independent advice from the panel members not directly associated with your work. Often, new ideas and lines of enquiry can emerge from the stimulation of such an examination.

8.2 The PhD Thesis

Having successfully passed the MPhil to PhD transfer, the normal expectation is that you will submit a thesis for examination for a PhD after approximately 33-36 months of full-time registration. Parts of your thesis should be written as you go along. The timing of the thesis submission is a key issue that your supervisor will discuss with you. There is much advice on how to write one. Again your supervisor will wish to guide you. Here are just a few obvious points to bear in mind:

- (i) make sure that you write the thesis - preferably complete it before leaving the University. The difficulty of completing the writing up after starting a new job grows exponentially with time;
- (ii) the thesis should be a 'free standing' document. It must be well embedded in the state-of-the-art effort, with references to all the relevant prior work, but it should be possible for someone knowledgeable in the field to read it without regularly consulting the references;
- (iii) a thesis is not an extended essay. It is a specific declaration of what is new that you have uncovered, why and how this new body of knowledge is useful. The thesis examination is often referred to as 'defending the thesis' - this is a good way of approaching the exercise. The thesis should be sufficiently declarative that if challenged it is clear what it is that you have to defend;
- (iv) diagrams should be of high quality and adequate for publication;

(v) pay attention to spelling and other typographical errors. It is valuable if the thesis is proof read by someone else, and carefully spell-checked on your word-processor.

Finally, the thesis should be as concise as possible. A reasonable page limit is 150 pages, but there is nothing wrong with a thesis of 120 pages. There is never a case for exceeding a total of 250 pages.

There are University regulations to which the thesis must conform. Advice on thesis preparation can be found on the Library web pages.

8.3 Declaration of originality

Students are reminded that the work they submit for assessment must be their own. To this end the following points should be noted:

(i) All theses submitted for research degrees must carry the following statement of originality signed and dated by the student:

This thesis and the work to which it refers are the results of my own efforts. Any ideas, data, images or text resulting from the work of others (whether published or unpublished) are fully identified as such within the work and attributed to their originator in the text, bibliography or in footnotes. This thesis has not been submitted in whole or in part for any other academic degree or professional qualification. I agree that the University has the right to submit my work to the plagiarism detection service TurnitinUK for originality checks. Whether or not drafts have been so-assessed, the University reserves the right to require an electronic version of the final document (as submitted) for assessment as above.

(ii) Any chapters that describe the outcomes of joint research must be clearly identified as such with the statement " *This chapter contains the products of joint research between myself and*" inserted as a footnote on the first page. Where significant ideas, data, images or text result from the input of your joint researchers these should be identified as such and attributed to the persons concerned by means of footnotes within the chapter.

(iii) It is usual to acknowledge the help and guidance of those who have assisted you during your research and the preparation of your thesis. Such acknowledgements for general support will not be held to conflict with your statement of originality, but neither will they replace or obviate the need for individual attribution of significant components of your thesis as in 1 or 2 above.

8.4 Thesis Submission

At least two months prior to submission of the soft bound thesis students must submit an MPhil or PhD Examination Entry form. These can be obtained from the Faculty Postgraduate Research Office. The student must complete part of the form and then pass it to their supervisor(s) who will then discuss the appropriate examiners and the Chair. Two examiners are required, one of which must be external to the University. The Examination Entry form must then be

returned to the Faculty Postgraduate Research Office for the approval and the signature of the Faculty Director of Postgraduate Research Studies. The form will then be passed to SPAB(R) for authorisation.

Soft bound copies of the thesis are permitted in advance of the viva voce examination. Submission of the thesis requires a minimum of three bound copies of the thesis to be presented. One copy is given to your supervisor, one to the internal examiner and one to the external examiner.

Those copies of the thesis required for the examiners must be submitted to the Faculty Postgraduate Research Office who will log your submission date and pass them to the University Examinations Office who is responsible for the delivery of these to the examiners. Collaborative students may wish to give their collaborative supervisor a copy also.

8.5 Viva-voce Seminar

PhD students are usually required to hold an open seminar during the day or days prior to the viva voce examination. The internal examiner and supervisor are expected to attend and, if available, the external examiner may also wish to attend. All open seminars are normally advertised throughout the Faculty.

8.6 Viva-voce Examination

Arrangements for your viva should be made by your principal supervisor who will liaise with you and your Centre Administrator. Your principal supervisor and collaborative supervisor, if applicable, will normally be expected to be in attendance at your viva, along with the internal, external examiners and the Chair. Once the viva has taken place the examiners will inform you of the result of the viva as follows:

- (i) that the Degree be awarded;
- (ii) that the Degree be awarded, subject to specified, minor corrections being made to the thesis or portfolio;
- (iii) that the Degree be not awarded, but that the student be permitted to submit a revised thesis, by a specified date, with or without further research, and be examined with or without a further *viva voce* examination [the examiners may, however, recommend (v) or (vi) as an alternative to (iii)];
- (iv) that the Degree be not awarded and with no recommendation regarding resubmission of the thesis;
- (v) that the Degree of Doctor of Philosophy be not awarded but that the Degree of Master of Philosophy be awarded, if appropriate, after specified minor corrections have been made to the thesis or portfolio, and if the student submits the thesis for that Degree within 40 days or as otherwise agreed by the Student Progress and Assessment Board;
- (vi) that the Degree of Doctor of Philosophy be not awarded but the student be permitted to submit a revised thesis, for the Degree of Master of Philosophy, by a specified date, with or without further research, and be examined with or without a further *viva voce* examination.

If you have minor corrections then you will be given 40 days to complete the corrections and hard bind your thesis as per the regulations in the University Calendar. Corrections must be shown to your supervisor and with his agreement the corrected thesis must then be submitted to the internal examiner. If the corrections have been completed to his satisfaction then he will inform you that you can go ahead and hard bind your thesis. He will produce a memo stating that you have completed your corrections and the Faculty Postgraduate Research Office will send this with your thesis to the University Examinations Office.

8.7 Binding

University regulations must be followed when binding the thesis. Binding facilities can be found on campus (Surrey Design and Print). Three copies of your hard bound thesis (collaborative students may wish to provide their collaborative supervisors with a copy also) are required by the University – one for you to give to your supervisor, one for your Centre/Department Library and one that **MUST** be passed to the Faculty Postgraduate Research Office for onward transmission to the University Examinations Office. Once SPAB(R) and Federal Senate have awarded you with the MPhil or PhD this copy of the thesis will be passed to the University Library.

9. LECTURES AND SEMINARS

The research process inevitably requires specialisation in a particular area of expertise. While necessary, this has its down side since much progress in science arises from the bringing together of ideas or methods from different disciplines. To be effective and versatile one has to concentrate, but at the same time avoid tunnel vision.

The remedies are to read around your subject, keep an eye on non-specialist journals, and to go to a range of lectures, research colloquia and seminars. The Faculty supports a large number of advanced undergraduate modules as well as of MSc course modules in many areas of our research. Expert speakers, from industry as well as other research institutions, are regularly invited by the Centres and research groups to give a number of research seminars. Attendance at your Centre seminars is considered a compulsory training activity and you are strongly encouraged to attend seminars in other Centres, thus discovering and, perhaps, also contributing to the work of your colleagues. The choice of advanced lecture courses within your training programme should be carefully planned and agreed with your supervisor.

Finally, a number of seminars that may be relevant to your work are organised by other Faculties and on a University-wide basis. In addition, various seminars and colloquia are held at the professional institutions, where forefront researchers in your field as well as distinguished speakers tell us all. Again, we hope that you will attend as many of these as possible - to start with only as a member of the audience, but towards the end of your PhD - with a bit of luck and a lot of hard work - as a speaker as well!

10. INTERACTION WITH MSc STUDENTS AND UNDERGRADUATES

All our final year students and most of our MSc students undertake research projects as part of their degree programmes. The former one can think of as being the equivalent of a full-time research student for six to eight weeks, the latter for approximately six months. There are good reasons for devising such projects that are linked with existing research work as closely as possible. The three main reasons are:

- (i) it optimises the use of space, equipment and other resources;
- (ii) it can aid the research project through additional manpower;
- (iii) it enables us to mobilise and make use of your skills.

Obviously, you will not find yourself supervising and being responsible for a student, unless you wish to do so. Nevertheless, it is worthwhile thinking of parts of your own project that could form a suitable theme. The essential requirements are that you must not be in a desperate hurry for the results, that you think the theme is significant - and that you would enjoy the interaction and the experience and training it provides.

11. PATENTS

It is not easy to make money by patenting ideas - but it has happened. In our Faculty, most of our support comes from public funds and there is an obligation upon us to seek to patent ideas that arise on projects supported in that way. The normal route to patent is via the British Technology Group, BTG. They do the work, pay the costs, and market the idea. There is a split of the profits - if any - between BTG and the University and a further split between the University and the inventors. Even if the chances of riches are slender, there is, on the other hand, little pain for us. Moreover, in considering 'publications', patents count and can be given more weight than papers in some disciplines.

The only major disadvantage is that patenting can delay publication. However, when you file a patent application, the BTG are sometimes prepared to obtain a 'Provisional Patent'. This can often be done in a couple of weeks, after which, one can publish. The delay need not therefore be serious.

If there is an idea that you wish to patent, there is some restriction on talking about it before protection has been obtained. On the whole, one need not take that too seriously, as long as one makes it clear that one is seeking to patent the idea being discussed and that the information should be regarded as confidential. Very frequently, people in different laboratories have similar ideas at roughly the same time. The existence of a properly kept, signed and witnessed laboratory notebook is a great help in supporting a claim for priority.

The rules and regulations related to filing patent applications change from time to time. Therefore the above should only be treated only as guidelines. If you

wish to proceed with a patent application, in the first instance you should contact, through your supervisor, the University Patents Officer.

12. KEYS AND SECURITY CARDS

We have to lock up our various workspaces. There are two obvious reasons for doing so. The first is safety. Laboratories and workshops, in general, pose safety hazards of varying degrees. The prevention of casual access is a requirement of the Health and Safety at Work Act. The second is the large financial investment in the equipment in laboratories. We must protect this investment.

A security system for entry to the buildings is in operation, including a door locking system for the academic buildings used by the Faculty, i.e. AA, AB, BA, BB and BC. Access between 8.00 pm and 7.30 am on working days and all weekend is only possible with a suitably enabled University of Surrey campus card.

Application forms for the Card Access and Central Locking System (CACLS) must be completed by all postgraduate students who need to work between 8.00 pm and 7.30 am on working days and any time at weekends and holidays.

You will probably wish to have a key to your work area; these are strictly controlled.

13. EXPENSES

In the course of your work you will at times incur personal expenses. These may arise through purchase of components using petty cash, or through travelling. You should always discuss outlay of personal funds with your supervisor before incurring any expense. In all cases you must keep receipts for any bought items, hotel bills, etc. It is not that there is any lack of trust on our part. It is simply that the University and Faculty financial systems will require receipts (as will the financial system of any other place where you may subsequently work). When travelling in the UK or abroad, it is expected that you will do everything you can to minimise the expense. The reason is obvious enough - we are normally on a tight budget, for travel in particular. Unnecessary expenditure by one researcher may prevent others from going to a conference.

14. TELEPHONE

The telephone is a vital piece of our research equipment that may be used only for work and research related business. Telephones are a major Faculty expense. We would be grateful if you would do everything in your power to minimise this expenditure. All conversations should be kept short.

15. PHOTOCOPIERS

During your studies you will read many research papers and consult many books. You may wish to photocopy items for personal use so that you can have them available for future reference. You may copy items but should make yourself

aware of the constraints of copyright law (i.e. you are normally permitted to copy only single items for personal use). There may be temptation to consider photocopying whole books; this is never permissible as it is expensive as well as illegal! It is almost always cheaper to buy an original copy of the book. University Library photocopying cards and arrangements for Centre photocopying are available from Centre Administrators.

16. EXTERNAL ACTIVITIES

Some of you may undertake other external commitments during your stay at Surrey, as a way of raising additional funds for self-support. Consultancies, laboratory supervision or tutorials fall into that category. Sometimes these activities may become too time consuming and involved, presenting a serious distraction from your research. Thus, they may defeat the object of your PhD research exercise and even lead to failure. You should not undertake on any paid employment in addition to your PhD effort that would require more than 6 hrs per week on average (the stated EPSRC limit). The maximum number of hours allowed for laboratory supervision and/or tutoring must not exceed 180 hrs per academic year. Finally, you must inform your supervisor about any external work that you plan to undertake during your period of registration with the Faculty.

17. RESEARCH TRAINING

The Faculty offers an integrated training programme over the three years of a PhD for all research students that covers all of the principal areas that will help you develop your research and prepare you for your future career. In addition, the University run a Postgraduate Skills Development Programme for all research students and fellows that provides a number of skills that will support you while at University and in your subsequent career. Both programmes have been designed together to ensure that there is no significant overlap, and have been designed to build upon each other to a certain extent. Details of the Faculty courses are available from the Postgraduate Research Office. You should discuss with your principal supervisor and agree which University courses you should go on, bearing in mind that the Faculty course is compulsory requirement for all research students.

18. EPSRC TRAINING

All EPSRC sponsored students are required to attend Research Councils' Graduate Faculty, or an equivalent training programme, during the 2nd or 3rd year of a full-time research programme. A Graduate Faculty is a five-day residential workshop at which research students develop their team-working and communication skills, and enhance their career development. PhD students who are not EPSRC funded are also encouraged to attend this programme. More information can be found at the following web address: <http://www.grad.ac.uk>. The Graduate Faculty is free of charge to EPSRC sponsored students.

19. STAFF LEARNING AND DEVELOPMENT PROGRAMME

The Staff learning and Development Programme is now available online. Research Students may be considered for some of these courses if there are places available:

20. INTRODUCTION TO LEARNING & TEACHING FOR POSTGRADUATE STUDENTS WITH TEACHING RESPONSIBILITIES

The Centre for Learning Development provides academic development training for all staff responsible for teaching at the university. This staff development provision includes a programme of training sessions for postgraduate students who are responsible for teaching and assessing undergraduate students. Further details can be obtained from the Centre for Learning Development.

21. ANNUAL LEAVE

Students are able to take up to eight weeks annual leave (which includes Bank Holidays and University closure dates) and you will be provided with a form when you start your PhD on which to request leave. All leave (including compassionate leave etc) must be agreed with your principal supervisor in advance. Your Centre Administrators will retain the forms on your Centre files. All holiday must be agreed with your principal supervisor and you must ensure that you satisfy all of your commitments with the University, such as demonstrating.

21.1 Sickness / Maternity Leave/ Paternity leave

It is essential that all research students keep their supervisors informed of any absence incurred due to sickness. All periods of sick leave must be accompanied by an official medical certificate *for periods in excess of 5 working days* and this certification should be sent to the relevant Faculty Postgraduate Research Office via the student's principal supervisor. This documentation must be received within one week of the start of the sick leave while for extended periods; certificates must be submitted periodically to cover the total period of sick leave. If no official certification is available, then the sick leave cannot be taken into account in any respect. Registry requires such documentation in order to ratify any requested periods of temporary suspension. It is the responsibility of the supervisor to ensure that the necessary arrangements are made to facilitate and support the return of the student after prolonged sickness absence, such as a phased return to study and any necessary support. This only applies to students who have taken significant amounts of sickness leave. Only periods in excess of three months of continuous sickness absence will be considered by each Faculty for temporary withdrawal of registration while shorter periods will be taken into account if students subsequently apply for extensions of registration. In addition, the suspension or waiver of fees and any appropriate maintenance grant for the duration of the sick leave will be reviewed by the principal supervisor and, where appropriate, the grant holder, if they are

different members of staff, and a recommendation made to the Associate Dean for Research. For students who are funded directly from external sources that they personally have arranged, the Faculty will inform them of the situation and leave the decision to the external body.

21.2 Other Authorised Leave (e.g. Compassionate leave)

Students requesting other leave should apply for such leave *before* taking the leave. However, in cases of emergency, such as a close family bereavement, they should inform their principal supervisor who will then inform the Faculty Postgraduate Research Office, of the start and expected end dates and the rationale for taking such leave. The principal supervisor must also inform the Postgraduate Research Office when the student has actually returned and whether there are any special circumstances, such as support or phased return required that they are implementing. The rationale must be a genuine emergency. The Faculty will, on the recommendation of their principal supervisor, decide whether or not to recommend temporary suspension of their registration to the University and whether their maintenance grant will be suspended for students who are in receipt of funding from the University. In cases where the student is funded by external sources, the Faculty will inform the funding body for them to make their decision.

21.3 Maternity Leave

All maternity must be officially certified for the full duration of the absence and it is the responsibility of the student to keep their principal supervisor informed of the situation. The principal supervisor will keep the Postgraduate Research Office informed of the situation with precise dates on which the student will start their maternity leave and the actual date of return to work. The maternity leave entitlement is up to 12 months and it is important that the actual dates are recorded. When the student goes off on maternity leave their registration will be put into abeyance and will be resurrected when they return. During this period, the registration fees will not be paid and the maintenance grant will be subject to the regulations of the funding body, see below for further details. It is the responsibility of the principal supervisor to arrange for the registration to be put into abeyance and to make the relevant financial adjustments. Supporting paperwork (status change forms) must be submitted to the Postgraduate Research Office should maternity leave and pay be applied for.

21.4 Funding During Leave

Funding here refers to the payment of fees and maintenance grants supporting your research degree studies. For students who are funded directly from sources external to the University, such as those on government scholarships and employer support, the Faculty will inform the funding body of the situation and the decision will be based on their funding regulations. For those students who are funded by from research grants held by members of the University, the regulations set out by EPSRC for Doctoral Training Grant will apply unless there are special conditions in the grant award or contract signed by the University that the funding body require the University to comply with.

N. B. for those research students who also have contracts of employment, the above guidelines only apply to their student registration and not to their employment at the University.

22. EMPLOYMENT

Any form of employment considered by students in full time registration should be discussed with the principal supervisor to ensure that she/he is happy that it will not impinge on the student's research.

23. DATA PROTECTION ACT

All Research projects are subject to the Data Protection Act 1998 and personal data held or processed must be conducted in accordance with the University's registration under the Act. The express authority of the principal supervisor must be obtained for such data to be held or processed. For further details on Data Protection please consult the University Code of Practice for Research Degrees.

24. INTELLECTUAL PROPERTY

While the copyright of a research thesis belongs to the author, a student is required to assign to the University or its nominee any intellectual property rights (whether patentable or otherwise) that the student is considered to have acquired whilst studying at the University. The student, in return, will be eligible to receive a fair proportion of any net receipts in accordance with the terms of the University's Intellectual Property Code. A student may, however, be subject to a specific agreement with the student's sponsor concerning the assignment of intellectual property rights to the sponsor. Further information on this subject can be found on the University website

25. STUDENT LETTERS

Throughout the course of your study you may be required to produce a letter confirming your student status. The Postgraduate Records Office in Registry produces letters with regard to council tax exemption or other purposes. If you require a letter please request one by using the online request system on the Registry pages of the website.

Your Faculty Postgraduate Research Officer can produce letters for you when details of your funding are required.

26. YOUR DEVELOPMENT: Teaching & Being Taught

Alongside your research studies, two additional activities within the Faculty can contribute significantly to your personal development: taking part in teaching as a postgraduate demonstrator and attending educational courses such as specialist short courses organised in the Faculty (see also Part 17) or University Staff Development courses. In addition, many students are eligible to attend the popular, national Graduate Summer Schools, which are organised by the U.K. Research Councils.

26.1 Teaching

There is a very small number of postgraduate research students who are contractually required to take part in teaching activities as part of their specific funding arrangements; there are also some students who are not permitted to take any paid employment of this type. However, most students are not obligated to take on a teaching or demonstrating role, but they decide to do some part-time teaching during their research degree. Why is this? Well, for many the pay is certainly an attractive incentive: the University pays set hourly rates that are very competitive relative to other part-time jobs available locally. The hours to be committed to the work are reasonable and well-defined. The work is usually intellectually challenging: it often involves trying to explain a technical topic to less experienced but nonetheless enthusiastic young people. For others, particularly those who are perhaps looking ahead to their next career move, experience in teaching and demonstrating work can help to strengthen your CV.

If you choose to take part in part-time teaching and demonstrating work, you should discuss this with your supervisor(s) to ensure that your plans for paid work will not interfere unduly with your research. The formal arrangements for paid teaching work are organised through the Faculty administration offices, and you should expect to receive official written notification of the work that you have agreed to be contracted to do. There is a limit on the number of hours that you may work per semester. Work permits are not required for overseas students. There are certain restrictions on what teaching-related activities a research student may do: the University's Code of Practice of Research Degrees discusses these limitations. Payments are made at the end of the semester in which you did the work: you should be notified of the payment *via* an official University pay slip. Contact the Postgraduate Research Office for more detailed information.

26.2 Being Taught

Postgraduate research students are eligible to attend many of the Staff Development Courses that are run by the University. Most of the courses are half-a-day or one day in duration, and cover a sufficiently wide range of topics that at least some will be of interest and relevance to you. Within the Faculty, there are opportunities to attend short courses on specialist technical topics that may be of broad relevance to your research work. Please look out for notices announcing such courses, and discuss with your supervisor(s) whether there are any courses that you may usefully attend. You and your supervisor(s) may decide that it would be helpful for your research studies if you "sat in on" or even formally studied one of the many MSc modules that are run by the Faculty. Further information on your training and development will be given to you when you attend your PhD Training sessions.

Finally - please keep a record of any courses that you attend. You are required to list them on your Annual Review form. This information will be the basis for a discussion of your training needs with your supervisor(s) at your Annual Review meeting.

27. IMPROVING THE SYSTEM

You are joining a large Faculty with very varied research interests and different working practices and research environments. When you have settled into the Faculty and your Research Centre it is perfectly possible that you may consider some processes obscure, ineffective or able to be improved. If so, as already noted in the Introduction, we would value your comments and suggestions through the many channels available for student liaison.

We are all receptive to ideas that could improve how we do things, the quality of our work, or the fun of the research experience. Once again, after discussing the matter with a few colleagues, it is helpful if the idea is put down on paper. It will help us all to think about the matter, and to help you, the originator, to distil and refine your suggestion.

We sincerely hope that your research experience at Surrey will be both enjoyable and productive and that you will feel an integral part of our high quality research community.

28. FURTHER USEFUL INFORMATION

- (i) Postgraduate Prospectus
<http://www.surrey.ac.uk/dynamic/postgraduate.html>
- (ii) General Regulations
<http://libweb.surrey.ac.uk/calendar/cream/index.htm>
- (iii) Code of Practice for Research degrees
<http://portal.surrey.ac.uk/registry/pgoffice/ifrs>
- (iv) European Language Teaching Centre
<http://www.surrey.ac.uk/TLC/>
- (v) International Office
<http://www.surrey.ac.uk/International/>
- (vi) Student Advice & Information Service
<http://www.surrey.ac.uk/SAS/>
- (vii) Complaints and Grievances
Http://portal.surrey.ac.uk:7778/portal/page?_pageid=719,64801&_dad=portal&_schema=PORTAL
- (viii) Academic Appeals
http://portal.surrey.ac.uk:7778/portal/page?_pageid=719,64800&_dad=portal&_schema=portal

APPENDICES

For Appendices A – E please see Standard Forms on the Graduate School web pages.