PS4299: Psychology Project (60)

School of Psychology & Neuroscience

2015-16
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1. Overview

The PS4299 project will involve extensive laboratory or field research to investigate a defined problem broadly within psychology. The project will involve diligence, initiative and independence in pursuing the literature, good experimental design, good experimental and/or analytical technique either in the field or the laboratory, good record keeping and good scientific writing skills. Initial tutorial meetings with the supervisor planning the study and developing the skill sets required will give way to increasingly independent learning as you progress, culminating in your own data collection and analysis. The project will culminate in the production of a high-quality report that demonstrates a deep understanding of the chosen area of research. You will be allocated to a member of staff within the School of Psychology and Neuroscience who will guide and advise you in research activities throughout the academic year.

In this project you will perform studies and collect your own data for analysis. During the course of your project you are expected to complete a series of tasks, and your overall grade for the project depends on your performance in these tasks, as follows:

- Review essay (15%)
- Research performance (25%)
- Research report and oral examination (50%)
- Oral presentation (10%)

You will normally be allocated your project at the end of your Junior Honours year. You should arrange an initial meeting with your supervisor, who will discuss the general area with you, and provide a framework for you to formulate a specific question or set of questions to address. You will probably also be given a few research papers to read to get you started in developing background knowledge in the project area.

The project normally starts at the beginning of Semester 1 in your Senior Honours year, and lasts for the complete year. Depending on the timetable of your choice of SH specialist taught modules, your project work may be spread evenly over the whole year, or it may be loaded more in one semester than another (although at least one component needs to be completed in each semester). You should plan with your supervisor a suitable overall timetable for your project work which takes into account these other commitments. You should also agree when you will meet: this should be on a regular basis, although the exact number and frequency of meetings may vary depending upon the project.¹

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¹ This handbook is a modified version of the Neuroscience PN4299 handbook originally prepared by Dr Gayle Doherty, with thanks
2. Project Task Deadlines

2.1. Review Essay

**Deadline: 12.00 Noon, FRIDAY 19th February 2016 (end of 2nd semester week 4)**

Upload a digital copy to MMS. The essay must have only your MATRICULATION NUMBER, not your name, on the front cover, nor should your name appear anywhere within the text.

2.2. Research Report and associated documents

**Deadline: 5.00 pm, SUNDAY 10th April 2016 (week 9, semester 2)**

By this date you must submit:

- Your research report
- A cover letter (optional)
- A declaration of authorship
- The raw data file
- Your research study notebook

Upload a digital copy of your research paper and declaration of authorship to MMS. If you have an electronic research study notebook, upload it as well. If your study notebook is on paper, hand it in before the deadline in the school office. There it will be logged and you get a receipt. The report must have your MATRICULATION NUMBER but not your name on the front cover (nor should your name appear anywhere within the text).

2.3. Project talk (oral presentation)

Project talks will take place on 13th to 15th April 2016 (week 10, semester 2)

2.4. *Viva voce* examinations

The dates and times of the *viva* examinations will be arranged individually between the students and the staff conducting the *viva voce*’s, but they must all be completed by **Friday 22th April 2015 (week 11, semester 2)**.

2.5. Extensions

**NOTE:** Extensions to research project deadlines are only granted in very EXCEPTIONAL CIRCUMSTANCES. In general, you MUST meet the deadlines, even if it means handing in a piece of work that is not finished to as high a standard as you would wish. Do not let the best be the enemy of the good (or even the adequate) if it means risking missing a deadline!

An extension request to a project deadline can only be made using the [online form](#) (also available on the School of Psychology undergraduate web pages). If you think that you have a legitimate reason why you cannot complete a piece of project work in time, you must apply for an extension well before the deadline.
### 2.6. Example timetable

Below is a possible timetable with overlap between stages. Change and adapt to the needs of you, your supervisor and the area of research: **large changes are perfectly OK so long as agreed by both you and your supervisor.**

<table>
<thead>
<tr>
<th>Week</th>
<th>Action</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk 1, sem 1</td>
<td>Timetabling meeting</td>
<td>Agree a schedule with your supervisor and insert it into the study notebook. Go over purpose of notebook and review criteria with your supervisor.</td>
</tr>
<tr>
<td>Wk 2-7, sem 1</td>
<td>Research proposal</td>
<td>Work on ideas for study. Look at study notebook regularly. You should be sketching out the review essay and relevant parts of the methods in your notebook.</td>
</tr>
<tr>
<td>Wk 4-8, sem 1</td>
<td>Ethics submission</td>
<td>It is important to get ethical approval as early as possible.</td>
</tr>
<tr>
<td>Wk 3-9, sem 1</td>
<td>Implementation</td>
<td>As soon as the proposal is developed, start on the implementation process. Sketch out the methods section in your notebook.</td>
</tr>
<tr>
<td>Wk9-11, sem 1</td>
<td>Data collection</td>
<td>Should be ready to collect data the day ethical approval is given. The notebook should indicate the number of participants and any other observations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Revision / Exams / Xmas break</td>
</tr>
<tr>
<td>Inter-semester week 2</td>
<td>Review submitted via MMS</td>
<td>Deadline for 2500 word review</td>
</tr>
<tr>
<td>Wk 1-2, sem 2</td>
<td>Review essay graded</td>
<td>Supervisors will grade and provide detailed feedback. Use feedback to improve the review and, in turn, adapt parts for the starting point of your introduction [remember that TurnItIn detects cut &amp; paste].</td>
</tr>
<tr>
<td>Wk1-5, sem 2</td>
<td>Data collection &amp; analysis</td>
<td>Should start sketching out the results section in the study notebook</td>
</tr>
<tr>
<td>Wk5-7, sem 2</td>
<td>Analysis / Writing</td>
<td>Remember to keep track of analyses in your study notebook (results section finalized, along with thoughts of discussion points).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spring break</td>
</tr>
<tr>
<td>Wk 8, sem 2</td>
<td>Draft should be in Prepare talk</td>
<td>The draft report should be submitted by end of week 8 at latest. Note that supervisors comments will, at best, only add a few grade points: put effort into the draft</td>
</tr>
<tr>
<td>Wk 9, sem 2</td>
<td>Submit report</td>
<td>Use the feedback from draft to improve report and to help guide talk. Submit report by end of week 9</td>
</tr>
<tr>
<td>Wk 10, sem 2</td>
<td>Give talk</td>
<td>Talks will be arranged for groups of students during week 10</td>
</tr>
<tr>
<td>Wk11, sem 2</td>
<td>Viva voce</td>
<td>20 minute viva voce (probably on the Thursday or Friday)</td>
</tr>
</tbody>
</table>

Variations in timetable expected
3. Skills
The module aims to further your experimental skills. There are a vast range of skills that you have been taught in your first three years of psychology and this module will draw on many of them. You have already practiced all the expected skills, particularly those that you learnt in the methodology courses of your previous 3 years at St Andrews.

This module will allow you to foster and further develop the skills you have been learning over the previous three years and thus represents a culmination of your study at St Andrews.

3.1. Transferable and discipline specific skills
By completing your project you will have had direct experience in and feedback on advanced aspects of:

- Discipline specific abilities
  - Numeracy
  - Use of appropriate resources (incl. data collection & analysis programs)
- Planning and strategy
  - Identification of goals and sub-goals
  - Ability to deliver outcomes on time
- Presentation skills
  - Summarising data, oral presentation
  - Detailed experimental reports
- Ethical considerations (human or animal) of psychological study
  - Ethical application procedures
- Design of empirical studies
  - Ability to create a hypothesis and relate to broader theories
    - Identifying a good hypotheses
    - Inductive processes and its limitations
    - Deductive reasoning and its limitations
  - Appropriate identification of population & sampling method
  - Consideration of internal & external validity
  - Selection of suitable independent and control variables
    - How to determine the appropriate analysis method

Additional courses, for example on how to improve your writing skills, are offered via CAPOD or the library.

4. Study Notebook
All students must maintain a study notebook while they undertake their projects. The exact nature of this will vary among projects, but essentially it is a combination of a reflective diary, in which you keep a record of your activities, thoughts and ideas relating to the project, and a notebook in which you record observations or the outcome of experiments, and their analysis.

The notebook is a tool that you yourself use as you work on your project. If, when you look at an experimental result, you get an idea for a future experiment, jot it down in your notebook. Then, if in the future you are trying to think what to do next, you can look back through your notebook to see what ideas you have had. Or, when you are writing the Discussion section of your paper, you can get ideas as to how the project could be taken further in the future.
The notebook is also a semi-formal record of what you actually did. If an experiment “fails”, then results can still be included in your final paper: the notebook is a record of how you spent your time, which proves that the failure was not due to lack of effort. (Although, of course, your supervisor should be fully aware of such situations anyway, and will be advising you on how best to proceed.)

In professional scientific research the laboratory notebook is also a document that can be used as evidence in disputes such as patent claims, or accusations of plagiarism or fraud. In the context of your Honours project, the notebook is the evidence that you actually did the work that you write about in your project.

The study notebook is NOT formally assessed as an individual component, but it DOES feed into the general assessment of Research Performance (see below). You should show your notebook to your supervisor periodically to make sure that you are fulfilling the expectations with regard to note keeping. It is a good idea to have the notebook electronically. This allows uploading the notebook to MMS together with the research report, the optional cover letter and the declaration of authorship. If you have a paper notebook, you either can scan it in and submit it to MMS, or hand it in before the deadline to the school secretaries.

5. The Project Tasks

Your overall project assessment is based on 4 assessed tasks. The following sections provide information on what you are expected to do for each task, some advice on how to carry out the tasks, and details of how the assessment will be carried out. Further generic advice on writing, particularly the report is provided in the School of Psychology Undergraduate web pages.

5.1. Review Essay (15%)

Towards the end of the first semester you are required to write a review essay surveying the general field in which your project is based.

There is a 2,500 word limit to the review essay. The word count does NOT include figure legends, tables, reference list or appendices. The word count does include the in text citations [do not use numbering system for citations]. Please note that if you exceed this limit you will lose marks.

All Senior Honours projects require you to become familiar with the research published in your area of study, and one aim of your review essay is to give you a focused task to help achieve this end. The initial references provided by your supervisor form a useful starting point, but you will be expected to expand your knowledge through your own research into the literature. You should be reading original scientific papers and review articles as your primary source material. When you read a paper, make careful notes on its content in your study notebook, including the exact bibliographic reference. At this stage MAKE SURE that you distinguish between any exact quotes, and notes written in your own words. It is ESSENTIAL that you avoid plagiarism when you write your reports, and one way that plagiarism might happen “by accident” is by forgetting which statements in your notebook are actually quotes, and which are your own summaries of a research article (see here).

Specialist books, or articles in journals that are not kept by the library in St Andrews, can be obtained by inter-library loan with the approval of your supervisor (who will cover the cost of this process). However, do remember that not all important research papers are available in electronic format. The university library has a large collection of real journals.
printed on real paper, and you may well have to actually visit the real library to read these!

5.1.a. Guidance and Feedback
You are expected to discuss the title, general contents and breadth of coverage of your essay with your supervisor. Your supervisor will provide initial references and advise on sources of information, and can be approached for further help if you “run dry”. However, you are expected to follow up trails of information on your own initiative as well, and the extent to which you achieve this will be a factor in the assessment of this task.

You can discuss the overall plan and layout of your essay with your supervisor. You can certainly discuss whether particular aspects of the topic should be included or not. Such discussions may well be more productive if you produce mind-maps, bulleted lists, outlines etc.

You should NOT ask your supervisor or any other member of the research group to comment on any draft version of your essay. The final essay is meant to be your own work and will receive feedback before being included (in amended form) in the final report. All essays will be checked for any evidence of plagiarism, and any such evidence could result in disciplinary action (see here).

Please note that the title of your review essay does not have to be finalised before you submit. If, as you are preparing your essay, you find that your study is departing from the expected line of investigation, you should discuss this with your supervisor and negotiate a change in title. What matters is that when the essay is complete, the title should adequately match the contents.

5.1.b. Assessment
Your review essay will be assessed by your supervisor and a designated second marker.

5.1.c. FAQs
Figures and Tables. It is possible that your review essay will be entirely textual, but in some cases it may be appropriate to include figures and/or tables. Each of these must have an appropriate legend, including a reference to the source if it is taken from the published literature, and each item must be referenced in the text. The style of referring to a figure has to be uniform throughout the text.

Subheadings. Appropriate subheadings are acceptable within the essay, and indeed are encouraged as an aid to clarifying the organisation.

5.2. Research Performance (25%)
Most of your time during the project will be spent actually carrying out your research, and you will be assessed on your aptitude and application during this period. There is no fixed formula for this, but assessment will take into account factors such as the following:

- **Timekeeping**: how hard did you actually work?
- **Time management**: did you use your time effectively and schedule tasks appropriately according to deadlines and priorities?
- **Initiative and planning**: did you think about what you were doing, and maybe make suggestions as the project progressed?
- **Study implementation**: how good were you at things like setting up your study and organizing data collection?
- **Note keeping**: did you keep accurate and clear records?
• **Draft of research paper**: what was the quality of the draft of the research paper (see below) that you presented for comments?

This is by no means an exhaustive list and the relative importance of these elements will vary among projects, but it should give you an idea of the sorts of things that are assessed under the general heading “Research Performance”.

5.2.a. **Guidance and Feedback**
You are expected to discuss the project plan with your supervisor. Your supervisor should organise any training required for the use of specialist apparatus etc., and also keep you informed of ethical issues (see here) and any possible health and safety implications (see here). You can expect to have assistance with routine matters (e.g. gaining access to testing space, use and training in appropriate data collection programs) so that trivial problems can be resolved as quickly as possible. The guide to participant research, also on the School of Psychology Undergraduate web pages, details participant recruitment, reimbursement, booking of laboratory space etc. You should have regular meetings on a more formal basis in which your progress and plans are discussed, and in which you receive feedback on any areas where your performance is causing concern. You should show your supervisor your study notebook at some or all of these meetings. You can expect to receive guidance on the analytical methods appropriate for your project, and, as the project progresses, you should present your analysed data at the meetings with your supervisor. These will then be used as the basis for discussion about what to do next. You are likely to receive a higher score in your research performance assessment if you come to these meetings having already thought about what your results mean, and with some ideas about what to do next!

5.2.b. **Assessment**
Your research performance is assessed by your supervisor. Your study notebook forms part of the evidence that will inform that assessment.

5.2.c. **FAQs**
*What to do if things go wrong.* First and foremost, don’t panic! All research suffers setbacks at one point or another. Your supervisor is the first port of call: be honest about your concerns. If you experience any problems with your project that you feel are not being adequately addressed by your supervisor you should consult the Module Controller, your Advisor or the Director of Teaching.

5.3. **Research report and oral examination (50%)**
This task includes three or four components, but only two of these contribute to the overall grade for the task. The components are a cover letter (not compulsory and not assessed), a brief statement of authorship (compulsory, not assessed), a research paper (contributes to assessment) and an oral examination (aka the viva voce, this also contributes to assessment).

5.3.a. **Cover letter (Optional)**
In case of problems with your project, e.g. lack of supervision, lack or breakdown of equipment or organisational problems please talk to your supervisor and/or the module organizer. The letter is a method by which the student can communicate information to the assessors which he/she wants them to be aware of, but which is not included in the report. Scientific issues should usually appear within the report but depending on circumstances you might want to include them here.

Supervisors will also complete a short report on each supervised project, explaining things like whose idea the project was, degree of help given, any problems encountered, etc. This report will be available to the project markers.
5.3.b. Declaration of Authorship
In order for you to receive the credit that is due to you, it is essential that your examiners have a clear understanding of precisely what was your own effort, and what was due to the input of others, before they start to read and assess your paper. The objective of the Declaration of Authorship is for you to provide a brief summary of the routine and non-routine support that you received (from your supervisor, research students, technicians, postdoctoral researchers, etc.) during your project research. Very few aspects of modern science and research are possible without the specialist or general input of assistants and colleagues, and it is only proper that their efforts are duly recognized, acknowledged and distinguished from your own. Of equal importance, however, is the need for you to carefully consider your project in its entirety and to self-assess. In so doing, you will identify for yourself the efforts and inputs of others that have supported you in your project. You should not view the acknowledgement of this assistance as being in any way detrimental to your training, or your research achievements and the assessment thereof.

You are requested to compose your own declaration, which should be of no more than 250 words long. For further details of the sorts of things that might go into the declaration, see Appendix.

5.3.c. Research Report
The final written report on your research activity takes the style of a research paper. There is a **7000 word limit** to this paper, which includes EVERYTHING except figures, tables and the reference list. Detailed advice is given in here.

The report should include the following sections:

1. Title page (with word count)
2. Acknowledgements
3. Abstract
4. Introduction
5. Methods
6. Results
7. Discussion
8. References

The text of the paper should form a well-structured “package” that tells a coherent story. This may mean that not all the experiments/observations that you performed will be included in this final report. However, if you encountered a scientific problem and tried several ways to solve it, and you have the feeling that the experiments are scientifically valuable and/or interesting, they should all be included even if you were, in the end, not able to solve the problem. But please distinguish between experiments that did not ‘work’ because you made an error and those where the outcome was not as expected (these are the most interesting cases, even if the result is ‘no effect’)

The Research Paper is the main documentary evidence of the outcome of your research project, and consequently MOST OF THE EFFORT you devote to this section should be allocated to this component.

5.3.d. Oral examination (the viva voce)
A 15 minute oral examination forms part of the assessment for this task within the project. The oral examination is conducted by the two staff members, not including your supervisor, who have graded your research report. The examination will be based on the contents of your research paper and narrative statement (if provided). By its very nature the exact course of an oral examination cannot be predicted in advance, but in general terms the examination will be used to test the extent or depth to which
you understand the topic that you have researched and the methods and analysis that you have undertaken.

It can also be used by you to clarify or expand on information in your paper that perhaps the examiners themselves have not understood or appreciated properly, or to raise any issues that you feel may have prevented you from achieving your full potential in terms of your project outcome.

For most people, an oral examination is a rather worrying prospect. However, be assured that the assessors are not out to trick or trap you – they simply want to allow you to do the best that you can. Do not be afraid to answer a question by just saying “I don’t know”. After all, university lecturers often have to give exactly that answer when students ask questions of them!

Finally, your performance in the *viva voce* can only improve your grade and will never lower your grade. When reading reports there are often issues that others might find confusing, not because or clarity or precision but simply because they have misinterpreted what you have written. This is your chance to rebut their errors: hence the very worst that you can do is let the examiners base their grade on the report as it stands. Remember that your examiners are used to dealing with nervous students: they are simply looking for signs that the issues are understood and appreciated.

**5.3.e. Guidance and Feedback**

You should discuss the overall theme, plan and layout of your research paper with your supervisor. You should discuss the order and organization of which sets of experiments should be included and you should confirm that you are in agreement as to what the final “take-home message” of the paper should be. Take notes during such discussions to avoid misunderstandings.

Your supervisor will provide feedback on ONE draft of the complete paper EXCEPT for the discussion. Remember that you will have already received feedback on your review of the general area of your project so you should be in a strong position to produce a good first draft. You should NOT ask your supervisor or any other member of the laboratory to comment on any draft of the Discussion section of your paper. The draft that you present to your supervisor for comments should be as complete and final as possible (excluding the Discussion).

All report papers will be checked for any evidence of plagiarism, and any such evidence could result in disciplinary action (see Appendix 2).

**5.3.f. Assessment**

Your report paper will be independently assessed by two staff members (not including your supervisor). At least two staff members other than your supervisor will conduct the oral examination. And remember that your grade can only go up as a result of the oral examination.

**5.3.g. FAQs**

*Excluded material.* It is possible that not all of the work you do (e.g. analyses) will be included in your final written report. This does NOT mean that you wasted your time on this other material. Such work will still contribute positively to the assessment of your research performance (25% of final grade) so be sure to include such work and why you did not include it in your study notebook.

*Duplication between review essay and Introduction to the research paper.* It is quite acceptable that there should be some duplication in the description of the background
literature between your review essay and the introduction section of the research paper. However, remember that the background information in the introduction should be focused specifically on material relevant to the contents of the paper, while your review essay is likely to be much broader in its contents. Furthermore, the introduction performs several additional important functions in addition to providing background information, and so the overlap should not be too great. Remember also that plagiarism, including self-plagiarism, is not accepted: do not do a “cut and paste” from your review but paraphrase and re-structure to suit your report (see here).

Format and content of the report. By the time you come to write your own research report, you will have read numerous published original research papers in the same general area as your project. If you are unsure about how to construct figures so that they present your data clearly, or you are not clear about how much information should go into a legend, or you don’t really understand the difference between the contents of the results section and the discussion section, you can use these papers as models. You can certainly ask your supervisor for advice on this, but out there in the general literature you have a vast resource of published examples. So, LOOK AND LEARN! (You can also read here, which gives some further advice.)

5.4. Talk (10%)
You will give a short talk about your project to an audience of your fellow students and some (2-3) staff assessors. The main aim of this is to give you a chance to show off what you have done. Your research project is in some ways the culmination of your 4 years of study at St Andrews, and the talk is your opportunity to tell us about it.

5.4.a. Each talk will be allocated a 15-minute slot.
The talks will occur in sessions. You should aim for your talk to be 12 minutes in duration, in order to give some time for a question or two, and for the next speaker to walk to the podium etc. Time your talk carefully: all too often talks go beyond their allocated time and this will have a serious impact on your grade.

5.4.b. Guidance and Feedback
You should discuss with your supervisor the content of your talk, and get advice if needed on the preparation of PowerPoint slides etc. A proper dress rehearsal, preferably in front of an experienced audience (your supervisor, other members of the lab) is VERY strongly recommended – it is the only way to properly judge the timing of a talk. Simply reading it over and “imagining” the situation can lead to severe misjudgement of the time it actually lasts.

The key thing with a talk is to remember that it is NOT the same as simply reading out a written report (or even memorizing it and repeating it without notes). The style in an oral presentation can be much more “chatty” than would be acceptable in a written report. Also, bear in mind that you will not have time to go into great detail, and you will have to be selective in deciding what information to include and what to leave out.

5.4.c. Assessment
Your talk will be assessed by 2 or 3 staff members not including your supervisor, but this is really just so as to encourage you to put some effort into its preparation. We want you to be able to enjoy giving your talk, and so the assessment is “light touch”. If you demonstrate that you have put in a reasonable effort and you keep to time (which means that your talk lasts more than 9 minutes and less than 13 minutes), then you will get a good grade. If you show that you have put in special effort (and keep to time), then you will get a very good grade.
Remember that the grade awarded for a project talk does NOT depend on the success of
the project, but it depends on your ability to COMMUNICATE the SCIENCE of your
project. It depends on keeping to time, the quality of the visual aids, the coherence
and structure of the content, and the ability of the speaker to be audible and to
engage the audience.

6. Guidance for supervisors

The following is not an exhaustive list, but it gives some of the key responsibilities of
project supervisors.

6.1. General guidance

- The supervisor should have an initial meeting with the student to agree working
practices, to outline the project and provide suitable initial background reading
material or advice. Where projects need (rarely) to be performed during the
summer, such contact should be made at the earliest opportunity mutually
acceptable for student and supervisor after project allocations have been made.
- The supervisor is directly responsible for strategic aspects of planning,
conduct, safety and guidance relating to the project. The supervisor must comply
with any relevant risk assessment procedures.
- At the start of the project the supervisor should advise each student on how to
keep a study notebook (usually a MS-word document), in which the student can
record and make notes about their project planning, results and general
progress. The supervisor should give guidance on appropriate record keeping,
and periodically review the contents of the study notebook. In most
circumstances the supervisor should also provide the student with a reasonable
credit for photocopying.
- Early in the project the supervisor should discuss with the student a title for the
review essay, and provide an initial set of references. The supervisor should give
the student reasonable guidance regarding the depth and breadth of coverage
expected in the essay.
- A student can expect to have assistance with routine matters (e.g. gaining
access to testing space, use and training in appropriate data collection
programs) so that trivial problems can be resolved as quickly as possible. In
addition, there should be regular supervisor-student contact. In the event that the
supervisor is away for more than a very short period, a stand-in supervisor
should be designated, and the Teaching Office informed (in addition to the normal
procedures for authorising absence from St Andrews).
- Each student is responsible for the collection and/or analysis of their own data.
The empirical part of the project may be conducted with another student in order
to allow greater research scope and the choice of more realistic problems so long
as each student is working on a distinct and clearly different aspect of the larger
problem. Students working collaboratively on a project can collect data
together but must not analyse it together. Similarly, supervisors will not analyse
data for students, though they may offer help in directing the analysis. In projects
where students are required to work with pre-existing data sets, they should not
co-operate with others in such a way that these collaborations would generate
similar sets of derived data.
- The total number of hours that a student should devote to the project should
reflect the fact that it accounts for one complete normal semester work load
(60 credits). The proportion of time devoted to the practical and analytical
components of the project may vary considerably among projects and is at the
discretion of the supervisor. Supervisors should bear in mind that students may well have commitments to taught courses running at the same time as the project, and should manage the project accordingly.

- The supervisor should inform the student of any areas in which his/her performance is deemed unsatisfactory.

6.2. **Guidance on Assessed Tasks**

- Supervisors should help the students with planning the contents of their review essays, but neither supervisors nor any members of their laboratory should read or comment on any draft versions of this document. However, discussions on content, organization and ‘flow’ are expected.
- The supervisor should be prepared to give detailed feedback on the review essay after it has been marked. The aim of this feedback is to help improve the performance of the student in writing the research paper.
- Supervisors should discuss the content and theme of the final research paper with students before they start writing it.
- Supervisors should read and comment on one draft of the complete research paper, excluding the discussion section. Students should remember that supervisors will also have other demands on their time: you will get more help if you respect this and do not expect instant feedback. Please ensure that a feasible timetable is agreed with your supervisor, particularly concerning submission of your first draft, and receiving feedback in good time for final revision and submission by the deadline. Generally, you should expect to receive feedback on your submitted draft within a week, if you submit your draft by the agreed date. If you do not keep to the agreed deadlines, comments may be less extensive or give you minimal time to make the suggested corrections and improvements.
- Supervisors should help students to prepare for their oral examination (*viva voce*) in any way they see fit.
- Supervisors should help students prepare for their oral presentation (talk), both by advising on the planning of the presentation, and by offering the opportunity for practice presentations.
- Supervisors should attend the session in which their students give their oral presentations, and be prepared to act as assessors of other students within that session.
7. **Appendix: Declaration of Authorship**

Here are some examples of what might constitute a Declaration of Authorship.

The work reported in this thesis is all my own. Other than the typical input, advice, discussion and support of my supervisor, I received no individual or especial assistance/training from other staff or students.

Signature ..........................Date ..................

This is a minimal statement, appropriate if you genuinely had received no assistance beyond that provided routinely by your supervisor.

However, it is quite likely that other people did provide specific expertise, assistance or training (beyond the typical) in one or more aspects of your work. These should be acknowledged as in the following illustrative examples.

Except where duly acknowledged (here, and under Acknowledgements), the work reported in this thesis is my own. My supervisor provided the typical input, advice, discussion and support but numerous individuals provided specific assistance and laboratory support.

Ms A. Bullock (Molecular Biology Research Technician) gave basic training in PCR techniques.

Dr B. Smith (Postdoctoral Fellow) provided training and advice on statistical analyses and data processing.

For extensive discussions concerning the interpretation and further analysis of my results I am grateful to Mr. D. Jones and Ms J. Chisolm (Research Students).

Logistical and safety support in the field was kindly provided by Messrs I. Johnston and F. Danvers. Their skill in boat handling under often difficult weather conditions was especially important to the successful conclusion of the project.

For assistance in trouble-shooting the complexities of micro-array analysis I am grateful for the particular guidance offered by members of the Molecular Biology Group (BMS), and especially Dr. V. Helpful.

Signature ..........................Date ........................

The Declaration of Authorship is particularly important for students undertaking data analysis projects. It may be, for example, that you were provided with sets of aerial photographs of seal colonies and your project concerned your individual gleaning of information and data from those photographs. In this case, you need simply acknowledge the provision of the photographic material and the personnel involved. If, however, important levels of support and assistance were given on the acquisition of the actual data from the photographs then this must be acknowledged. You must also offer a clear appraisal of the extent to which the data had been processed before you obtained them. For example, you may have had a project concerning the analysis of photosynthesis of marine algae in relation to Sea Surface Temperature anomalies. You may have been provided with the raw satellite data, which you yourself then processed to identify the anomalies. This is very different to being provided with SST data already processed from their original state into anomalies.

It is important to reiterate that the key objective here is to encourage and require you to carefully consider what your own effort was and what is due to others’ input. In order for your examiners to assess your specific skills and achievements it is essential that they have a clear impression of these facets of your project work before the assessment procedures commence.