

Guidelines for student research projects

(for courses coded as LPWM, within coursework programs)

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Faculty of Natural Resources, Agriculture and Veterinary Science

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Table of contents	
Identifying a research topic	2
Preliminary Project Proposal	3
Project Proposal	4
Research Project Report	4
Examination of the report	9
Graduate research project assessment criteria sheet	10

Currently the School has undergraduate Research Projects #4 (LPWM4611/12), Honours Research Projects #8 (LPWM6613/14/17) & #12 (LPWM6618/19), Graduate Research Projects #4 (LPWM7612/13/17) & #8 (LPWM7617/18/19). This document is designed as a guide for students and advisors about the expectations and requirements that the School has about these courses.

The nature of student research

Student research involves the design, implementation and presentation of a research project that is approved by the coordinator of LPWM courses are expected to demonstrate their knowledge and application of the principles of research at a level that identifies them as potential researchers in the future. Emphasis is placed on:

- identifying and defining a significant issue or problem;
- undertaking appropriate collection of relevant up to date information about the issue;
- establishing an appropriate methodology;
- collecting data in a systematic and defensible way;
- analysing, interpreting and evaluating the collected data; and
- drawing defensible conclusions and recommendations relevant to the issue.

Students must demonstrate their ability to think critically and provide a written report in accordance with high academic standards.

Identifying a research topic

Ideally, by the time you have completed half of your coursework, you should have begun to think about the topic for your research project and begun discussion with possible advisors. When looking for a topic, try to identify issues/problems that interest you in your work, field or region, or topics of particular interest you have found in your reading. As you browse the literature to ensure you identify a manageable topic, ask yourself questions such as:

- Am I interested in this topic?
- Is there a recognised need for research in the area?
- Is the research achievable within the allocated time?
- Is it likely that I will be able to collect sufficient data to undertake all the necessary research in the topic?
- Is there a research group working in this area that I can join?
- Are there sufficient resources to complete this project on time?

Please note: It is usually recommended or required, depending on your program that students complete a methodology course. Please refer to the Courses and Program link below if you are in doubt about your requirements.

<http://www.uq.edu.au/study/>

Preliminary Project Proposal

Once you have identified and selected a research topic, you should draft a short preliminary proposal to outline what you would like to do. The preliminary proposal is a 1-2 page working document which outlines the proposed project. It should:

- Outline the problem
- Clarify the aims and objectives of the project
- Outline suggested methodology
- Identify ethical requirements.

The purpose of the proposal is to protect you from working on an impossible or impractical project.

The preliminary proposal also provides you with a clear foundation from which to discuss your project with an Advisor. You may nominate an Advisor in the field of your research project or seek assistance from the Program Coordinator to select an appropriate advisor.

To identify a possible advisor, ask yourself questions such as:

- Is this person well acquainted with the research area?
- Does this person have an active interest in the research area?
- Is this person's theoretical framework compatible with the focus of the research?
- Will this person be available for the length of my project?
- Can I work with this person?

Regular contact between you and your advisor(s) is essential if you are to obtain the best outcome from your studies. You should contact your advisor regularly to obtain support and advice with your project work and to receive valuable feedback on your written work. Your advisor(s) may also contact you to check on your progress or to ask for meetings. To make the most of the contact with your advisor you may together draw up a schedule for a regular contact time. It is often best to develop a list of questions to be answered and send timely drafts of your written work for feedback. It is necessary to have a realistic expectation of the turn around time for comments on written material that you present to your advisor. Remember that they are busy people who cannot drop other commitments in order to assess your material. They may need several weeks to assess and comment on your work, so you need to build such lead times into your schedule.

Project Proposal

With the help of your advisor, the preliminary project proposal is used to develop and design the full research project proposal. Your advisor will:

- help you clarify and scope the topic
- give advice on methodology to use, and help you identify what to do and how to analyse the data
- suggest particular authors and relevant literature to read
- identify a timeframe for completion of the project.

A logical list of headings is useful to clarify and refine your ideas when developing the full research proposal. For example, you could use the following headings structure:

- A brief title of the project
- The research problem
 - What exactly is the problem you want to investigate
 - What is the context of the problem – include a short summary of your background reading
- Research question – What are the precise questions you want to find answers to?
- Aims and objectives of the research project – What do you want to achieve from the research?
- Methodology- What will do? How will you analyse the data collected?
- Ethics – What ethics clearance do you need for this project? Animal Ethics are administered by the Office of Research and Postgraduate Studies. Check the University Ethics requirements at <http://www.uq.edu.au/research/rtrtd/>
- Human ethics can usually be administered by the school, and the appropriate application forms can be downloaded from this site. http://www.nrsm.uq.edu.au/Student_Resources/index.asp
- Time frame – when will you undertake the different components of the project?

UQ Ethics applications may also provide a useful structure for developing and clarifying your research project.

Before you start your research there is a school requirement for you to complete an application form which must be submitted within two weeks of enrolling. The information on this form helps the school keep a better record of who is doing what and who their supervisors are.

Research Project Report

The research report genre is designed to give information concisely and accurately using a clear, well-ordered structure. It is a formal write up and follows

a formal structure. The report should be a clear explanation of: the research questions examined, relationship of the research to existing research, the methodology and strategies employed and the results identified, critically analysed and evaluated. Ask yourself:

- What was problem/issue that was examined?
- What is already known about the issue in the literature?
- What did I do to solve it?
- What do my findings mean?
- How can further progress be made on the issue?

Length of Report Guidelines

Unit Value (#)	Undergraduate	Honours Research Project	Postgraduate Coursework
4	5000-6000 words	NA	6000-8000 words
8	NA	10000-12000 words	12000-15000 words
12	NA	15000-18000 words	NA

Format

- A high standard of presentation – poor graphic quality can negatively impact on the visual appeal of your report.
- A4 paper.
- Print on both sides of the page.
- Pages numbered consecutively.
- Number tables and figures consecutively, and do not refer to them out of sequence, i.e. do not refer to figure 2 before you refer to figure 1.
- Line spacing 1.5 and 12pt Times New Roman font.
- Left margin should be no less than 30mm and right margin no less than 20mm.
- Top and bottom margins no less than 20 mm.

Research reports are **usually organised into sections, using a number of the following recommended headings**. Not all headings will be used all the time. Discuss your report structure with your Advisor.

Title Page

The title page includes:

- Title in full – this is usually less than 10-12 words and usually not a sentence
- Your full name
- School in which you have submitted the work
- Degree for which the research project is submitted

- Date of submission

Declaration

A signed statement that the work submitted is, to the best of your knowledge and belief, your own except as acknowledged in the text. Use the following form of words **exactly**.

Declaration of Authorship

I certify that the work presented here is, to the best of my knowledge and belief, original and the result of my own investigations, except as acknowledged, and has not been submitted, either in part or whole, for a degree at this or any other institution.

You must sign and date this declaration.

Acknowledgements

Acknowledge the assistance given to you by your Advisor and any other person that has helped you. This is a section to put on the record those people who materially contributed to your project and this is required for good academic practice.

Abstract

The abstract is a synopsis of your study question, aims and objectives, and findings. It sums up and summarises the problem, how you examined the problem, what you found and what this means.

The abstract should be 250-300 words in length and should be very clear and easy to follow, as it is often the most widely read part of your research project report.

It is easiest if you write the abstract after you have written the rest of the report. It is self-contained and usually does not include references.

Table of Contents

This is a list of the sections in your research report.

Introduction (Approximately 5% of the word limit)

The introduction tells the reader what your research project is about. State briefly the area investigated, any background information necessary to clarify the area of study and why it is important.

You should ask yourself:

- What is the research issue/problem?
- How does this fit into existing research literature?

The introduction is usually written in past tense and often written after the other sections.

Literature review (Approximately 25% of the word limit)

The literature review is a detailed review of the background literature to your research project which shows the relevance of your project to the wider research field. The purpose of the literature review is to show your reader that your research is informed, logical and necessary. You can do this by:

- Showing where your research issue/problem came from. For example, ask yourself:
 - What is already known about the issue/problem?
 - Where did the problem come from? How and when did it become a problem?
 - What other methods have been tried to solve the issue/problem
 - Why is my issue/problem important in this context?
 - How does my research address this issue/problem?
- Organise your literature review around concepts and issues, *not* authors
- Summarise and critically evaluate past research
- Give an overview of controversies in past research
- Show similarities and differences in previous research
- At the end of your literature review, introduce your research by outlining your research question and the aims and objectives of your study.

The Introduction and Literature Review may also be combined to form one introductory section.

Methodology / procedures (Approximately 15% of the word limit)

The purpose of methodology is to enable another researcher to reproduce exactly what you have done. Detail what you did to investigate the research issue/problem. For example, how you investigated the topic and gathered the information, where the information was gathered and how much information was collected. It is important to add enough detail to show your reader that you understand the method, its procedures and limitations, and that all critical steps have been followed. There may be considerable differences in the method section depending on the nature of the research and its methodological underpinnings. Check with your advisor, and related literature for the most appropriate style.

Think about your how you investigated your research project:

- What did you do? How?
- Why did you do it this way?
- When did you do it?
- Where?
- What materials did you use?
- Were there any ethical considerations?

Results and Discussion (Approximately 30% of the word limit)

Results

The purpose of this section is to present your findings. Results sections present only the results/findings and are usually organised so that they reflect the methods used and sequence of information, and the research questions/aims outlined.

It is important that this section is clearly organised. The data for each research question is usually presented in the same order as the research questions have been noted.

The results of your research are usually written up using paragraphs supported by frequent summary tables and/or graphs and figures. A table or graph/figure should be referred to in the text along with the reason for including it.

Discussion

This is the main discussion. The function is to interpret results presented in the results section and to discuss them in relation to your research questions/aims. For example, ask yourself:

- What do my results mean?
- Why did this happen?
- How do these results fit with existing knowledge?
- Are they consistent with the literature?
- Do they generate new insights?

It is broken up into sections which deal with one subject at a time.

Conclusions are drawn from the findings and are linked back to the research questions/aims. For example, you can

- Make generalisations arising from the discussion of the results
- Look at implications for practice
- Make recommendations derived from the main body of the report and highlight any actions that need to follow on from your work.

References / bibliography

Any source from which information is derived must be clearly, concisely and accurately cited. A bibliography is a list of all sources from which information is derived. The reference list must contain only those sources cited in the report.

The style adopted must be followed consistently.

Appendices

Appendices are used to provide more detail where necessary, and should be used sparingly, if at all. Usually appendices are used to provide detail that is necessary to understand what you did or why you did it, but not to present your results.

Examination of the report

The mode of examination will vary depending on the type of report.

4 Unit Undergraduate Reports

- Examined by the academic advisor
- Criteria for assessment should be discussed and agreed when the project is first developed

8 & 12 Unit Honours Theses

- Examined by two independent examiners
- Academic advisors may not be examiners
- At least one examiner internal to UQ
- Examiners to recommend a percentage mark as well as grade. Final grade to be determined from a mean of the two percentages
- In the event of the recommended grade varying by more than 1 grade, the Course Coordinator will call for a third, independent assessment
- Final assessment of grade arrived at by Head of School, who delegates authority to the Course Coordinator

4 & 8 Unit Postgraduate Coursework Reports

- Examined independently by the principal academic advisor and one other examiner
- Examiners to recommend a percentage mark as well as grade. Final grade to be determined from a mean of the two percentages
- In the event of the recommended grade varying by more than 1 grade, the course coordinator will call for a third, independent assessment
- Final assessment of grade arrived at by Head of School, who delegates authority to the Course Coordinator

Graduate research project assessment criteria sheet

Student: _____ Project size: _____ Marker: _____ Date of marking: _____

Criteria /Mark	24	22	20	18	16	14	12	10	8	6	2	Mark
Scientific procedure of writing (structure and approach)						<ul style="list-style-type: none"> Excellent to good scientific procedure followed. Excellent use of headings, figures, tables. Showed clarity and logic. Correct citing and referencing. Excellent spelling and grammar. Kept to word length 	<ul style="list-style-type: none"> Acceptable to marginal example of scientific procedure with weaknesses in structure and format or errors in citing, referencing, spelling, grammar, word length. 			<ul style="list-style-type: none"> Below satisfactory standard of structure and approach with many errors in citing, referencing, spelling, grammar, or word length. 		16
Evidence of command of concepts	<ul style="list-style-type: none"> Clear evidence of extensive breadth of reading of relevant literature as shown by content, and references cited in the text. Clear definition of terms and very effective use of literature. Obvious understanding of issues and literature. 		<ul style="list-style-type: none"> Clear evidence of breadth of reading of relevant literature as shown by content and references cited in the text. A few weaknesses in either: definition of terms; effective use of literature; or understanding of issues and literature. 		<ul style="list-style-type: none"> Evidence of limited reading of relevant literature. Limited definition of terms, understanding of issues and literature. 		<ul style="list-style-type: none"> Very limited reading of relevant literature with very limited understanding of the issues. 				24	
Application of principles to new data	<ul style="list-style-type: none"> Very clear interpretation of the problem in terms of literature. Excellent application of a range of concepts from the literature to practical situations, with interpretation. Provided reasons for the choice of methods/desired outcomes. 		<ul style="list-style-type: none"> Good interpretation of the problem in terms of the literature. Good application of a range of concepts from the literature to practical situations, but perhaps without interpreting them, or in providing reasons for the choice of methods/desired outcomes. 		<ul style="list-style-type: none"> Some limitations in either: interpretation of the problem in terms of the literature; application of concepts from the literature to practical situations; or interpreting them, or in providing reasons for the choice of methods/desired outcomes 		<ul style="list-style-type: none"> Several limitations in either interpretation of the problem in terms of information gained from the literature, or application of a range of concepts from the literature to practical situations, without interpreting them, or in providing reasons for the choice of methods/desired outcomes. 				24	
Creative problem solution (critical thinking/problem solving)			<ul style="list-style-type: none"> Gave well thought out ideas when interpreting the literature and on overcoming deficiencies. An excellent questioning approach relevant to analytical and speculative styles of writing. Showed marked ingenuity/ creativity, intuition, and initiative in finding an answer to problems. 		<ul style="list-style-type: none"> Gave some ideas when interpreting the literature and on overcoming deficiencies, solve problems. Some evidence of questioning approach, ingenuity/creativity, intuition, and initiative in finding an answer to problems. May have used models to explain complex concepts. 		<ul style="list-style-type: none"> Limited evidence of own ideas on overcoming deficiencies or when interpreting the literature. Limited use of intuition, initiative, ingenuity, creativity in finding an answer to problems. 			<ul style="list-style-type: none"> Serious limitations to evidence of critical thinking and problem solving. 		20

Guidelines for student research projects (coursework programs) (updated May 2009)

		<ul style="list-style-type: none"> Effectively used models to explain complex concepts. 	<ul style="list-style-type: none"> Addresses all parts of the topic in depth. Evidence of inferences drawn and excellent integration of literature, secondary data and own ideas. 	<ul style="list-style-type: none"> Addresses the topic superficially or only in part. Good to limited inferences drawn and good to limited integration. 	<ul style="list-style-type: none"> Not addressed the topic or limited inferences drawn and poor integration of information and ideas. 	<p style="text-align: center;">16</p>
<p>Grades: 1 (0 to 29%), 2 (30 to 46%), 3 (47 to 49%), 4 (50 to 64%), 5 (65 to 74%), 6 (75 to 84%), 7 (85 to 100%) This marking system is based on a concept developed by Bruce Frank and Ciel Claridge</p>						<p style="text-align: center;">100</p>