UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

FACULTY OF HEALTH SCIENCES

Guidelines for Applicants

for

Higher Degrees

in the

Faculty of Health Sciences

CONTENTS OF THE RESEARCH PROPOSAL[1]

Please be aware that not all information is essential for all departments/schools but it is still advised that you include as much as possible or relevant)

A proposal is a plan for a research project. It is one of the most important phases of the study. If it is inadequate, misguided, or incomplete, it is unlikely that the research will be successful. Formulating the proposal may, for some research projects, take longer than the collecting of data.

A proposal must not be very long. It is a plan of action, not a full research report, dissertation or thesis itself. The proposal document in entirety should not exceed **10 typed pages** for an MSc and **15 pages** for a PhD. It should be typed in 12 point either Arial or Times New Roman script with double spacing (including the references). The page limit does not include questionnaires that should be placed in an appendix. Proposals may be rejected if they are too long (more than 5 pages over stated length).

Protocols must be accompanied by a proposal cover sheet, available from the postgraduate office.

A proposal should include the following:

1. **A TITLE**

   A title should be brief, and precise, and should avoid redundancies and unnecessary phrases such as "An investigation into...". Below the title, state your name, student number and the degree for which you are registered. Also give the name(s), qualifications and position(s) currently held, of your supervisor(s).

2. **INTRODUCTION / Background**

   The introduction should explain, for the non-expert but intelligent reader of your document, what the background is to your proposed study. You should formulate the question being asked, or the hypothesis of the study, in the context of the prevailing scientific knowledge on the subject. Therefore in this section you should also include a brief review of the relevant literature that has led to the idea or conceptualization of your project. Usually about **five pages** and between ten to twenty references will suffice.

   Calling this section a "literature review" is probably giving the wrong idea. This section should rather be called a "background literature analysis and critique" rather than just a review. You need to review the literature first (read through it) and then analyze and critique the arguments presented in that literature when you write this section.

   Only information relevant to the study should be included as the primary purpose to this part of the protocol is to justify the study in the light of previous information. At this stage the "story" of the research should be quite clear to the assessors. The paragraphs should therefore be carefully structured and lead the reader carefully and deliberately towards the final paragraph which should contain the research question/aim. This may be expressed as: "Therefore the aim of my study is to …". You can then add a sentence indicating your hypothesis which is a statement predicting the outcome of the study.

   If you have information such as data from an unpublished Honours project which provides some background to the current study then include the information in this section as well.

[1] Some departments, such as the Steve Biko Centre for Bioethics, due to the type of research done, may have a different format required for protocols. It is the student's responsibility to enquire from their home department regarding the guidelines used.

3. STUDY OBJECTIVES

This section requires you to be specific about the research questions or problems to be studied, which were raised in the introduction. It is probably the single most important section of a proposal. State exactly what it is you intend to do, and what outcomes you will measure to find answers to the questions you have in mind. You may list the study objectives, or specify them in paragraph form, but the reader must be left in no doubt as to what your objectives are.

Objectives are usually written starting with "to" and then using words such as describe, explain, compare, measure etc. For example, To describe the characteristics of ….

4. METHODS

This section should include all the information relating to your plan of action. Specifically, address the following:

i) State who/what participants are to be studied. If they will be animals, give details such as their species, body weight, sex and number. If human beings are to be studied, specify the population and state which of its characteristics are relevant to your study. In both cases specify the inclusion and exclusion criteria you will use in selecting your participants where appropriate.

ii) Explain what experimental groups the animals, participants, or members of the population will form, which participants will act as controls and whether when the study will be open, or single/double blind, cross-over or parallel in nature, or a clinical trial.

For each of (i) and (ii), justify your selection of experimental subjects and sample size.

Possible headings to use include: site of study, control participants (if used) – how selected, and study design. It is essential that every detail regarding your methods section is explained in your protocol.

i) If using tissues or tissue samples, x-rays, patient records etc, state the choice(s) of material for your study and justify your choice(s), in terms of type of study material, size of sample, control material or tissue etc to be used.

ii) What intervention(s) is (are) to be made? Describe what each intervention involves.

iii) What measurements or observations are to be made? Describe the variables to be controlled and the techniques to be used, and identify and explain which of these are established techniques, and which will require development, or require you to work somewhere other than in your institution or require someone else to perform the measurements. The level of detail in this section should be such that the reader clearly understands how these measurements are designed to enable you to elicit a conclusion from your research questions.

iv) State the endpoints you have in mind for your study, which will allow you to know when it has reached its completion.

v) Consider such issues as sources of bias, and confounding variables.

vi) If a pilot study will be necessary, explain what aspects of the proposal may change as a result of its outcome.

The methods section has to be particularly clear and be linked to the objectives and thus using headings to clarify these relationships would be preferable.

If the project is risky, meaning that there may be no results, state if:

- The project is built on previous work
- What the alternative plan is if the first part of the project fails (particularly important if the subsequent sections depend on the success of the first section)
- The work has already started, particularly if there are preliminary results.

If you are planning to run a retrospective case review you should submit your data sheet indicating exactly what data you will be taking from the files. This is best presented as tick boxes which you can use for documenting the data from the patient files. It is important to check that the data obtained from the files will be sufficient to answer all the objectives.

Please make sure that you mention, particularly if you are using any retrospective analysis, what data you will be collecting yourself. This includes raw data collection as well as data analysis, in the form of analysis techniques e.g. PCR or estimation of blood glucose you will be doing yourself. This is particularly important for a PhD protocol.

5. DATA ANALYSIS

Specify the methods to be used in the analysis of the data of each section of the work, the statistical tests that will be used and whether expert statistical help will be necessary. If it will, state whose help will be needed.

The data analysis required to fulfil each objective should be specified. It is not enough to give every possible test and mention that you will be using one of them “as applicable”. The importance here is to let the assessors know that you have thought about the data which will be produced and how you will deal with that data to answer each objective.

6. ETHICS

If the study raises ethical issues, such as research on sensitive participants or research on children, explain how you will deal with these issues. State whether clearance has already been obtained from the relevant ethics committee, or when you envisage making a submission to the committee.

An ethics application form is required for all studies unless there are no human participants involved and then there is an ethics waiver such as would be obtained for cell lines. Different ethics forms need to be completed for animal and human studies.

7. TIMING

State when the study will commence, and its expected duration.

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Literature review												
Preparing protocol												
Protocol assessment												

Ethics application												
Collecting data												
Data analysis												
Writing up - thesis												
Writing up - paper												

It is better in this section to fill in a Gant chart (see above) indicating the time expected to be taken on the various component parts of the project. It is preferable that the time indicated should be appropriate in order to complete the degree in the recommended time.

8. FUNDING

Start with providing a predicted budget for your project. Include all expenses including assay kits, photocopying and transport. This is best done as a table.

Explain how the project will be funded. There may be a need to specify the sources of funding for specific aspects of the project, or to pre-empt a question as to where funding would come from, possibly for particularly expensive equipment, agents or tests. If a drug company is donating agents to be used, please disclose this information. It is essential at the protocol submission stage that funding be available or there should be evidence of proposed funding especially if the project (s) are expensive. If funding is available a letter to that effect should be attached from the person holding the funds to confirm that funding is available for this particular project.

9. PROBLEMS

If there are any issues, which you consider may compromise your progress with the project, such as availability of study material or patients, or problems of a technical nature, please raise these issues, so that the Faculty Committee can attempt to help you.

10. REFERENCES

You should list the references in an accepted referencing format - either Harvard (author-date) or Vancouver (numbering) as long as the referencing style is maintained throughout the document (check the style guide for more details – available in the Wits health Sciences Library). It is much easier to use the Harvard style in a thesis as the authors and date make sense. All references in the reference list must be cited in the text and vice versa.

In text use (Companion et al 2004) and in reference list use a style like

Companion F, Friend P and R Buddy. Ways to travel. 2004 J Sociology 142: 534-8.

If you obtain journal articles through the web you only have to give the URL if there are no page numbers allocated to the article. If there are page numbers it implies that the article is in printed form somewhere and only the journal reference is required.