Contents of the Research Proposal

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 studies, take longer than collecting the data.

A proposal must not be very long. It is a plan of action, not a full research report, dissertation or thesis. The proposal document in entirety should not exceed 10 typed pages (12 point Arial or Times New Roman font) with double spacing. This length includes your references.

A proposal should include the following:

1. A TITLE
   The title should be brief and precise, and should avoid redundancies and unnecessary phrases (eg. avoid "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 current position/s held of your supervisor/s.

2. INTRODUCTION
   Your 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 of the proposal (not the report itself where it normally comprises a separate chapter), you should also include a brief review of the relevant literature that has led to the idea or conceptualization of your project. Usually about 5 -10 references will suffice.

   Calling this section a literature review is probably giving the wrong idea. This section should be called a literature analysis and critique, rather than a review. However, you need to review the literature by reading it first, and then analyze and/or criticize the arguments presented in that literature when you write this section of the proposal. Only information relevant to the study should be included here, as the primary purpose of this part of the protocol is to justify the study in the light of previous research and current 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 or 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.

3. STUDY OBJECTIVES
This section requires you to be specific about the research questions or problems to be investigated, which were raised in the introduction. It is probably the single most important section of any proposal. State exactly what it is that 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 verbs such as describe, explain, compare, measure, etc. (eg. “to describe the characteristics of ...”)

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

- State who/what subjects are to be studied. If they are animals, give details such as their species, body weight, sex and number. If humans are to be studied, specify the population and state which characteristics are relevant to your study. In both cases, specify the inclusion/exclusion criteria you will use in selecting your subjects.
- Explain what experimental groups the animals, subjects or members of the population will form, which subjects will act as controls and when the study will be open and closed. State the nature of the study (single/double blind, cross-over or parallel in nature, or a clinical or evidence-based trial, in which case specific criteria relevant to these forms of research will need to be applied).
- For both items outlined above, justify your selection of experimental subjects and sample size.
- Possible headings to use include site of study, control subjects (if used) – how selected; and study design. It is essential that every detail regarding your methods section is explained in your protocol.
- If the study is qualitative in nature, the same rigor in the study method/s selected will be expected.
- 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 the type of study material, size of sample, and control material to be used.
- What intervention/s is/are to be made? Describe what each intervention involves.
- 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 at 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.

- State the **endpoints** you have in mind for your study, which will allow you to know when it has reached its completion.
- Consider such issues as sources of bias, and confounding variables.
- 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 the use of headings is helpful.

If the project is risky, state if the project is built on previous work; what plan B will be if the first part of the project fails (particularly important if the subsequent sections of the research depend on the success of the first section); and state if 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 a tick list 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.

5. **DATA ANALYSIS**

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

The data analysis required to fulfill 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 subjects or research on children, explain how you will deal with these issues and how you will obtain informed consent. State whether ethical clearance has already been obtained from the relevant ethics committees (and include the ethics clearance number obtained), or when you envision making a submission to the committee.

An ethics application form is required for all studies, unless 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. It is useful in this section to fill in a Gantt chart, used in project management (see example below), indicating the time expected to be taken on the various component parts of the study. It is preferable that the
time indicated should not be longer than the minimum time allowed for the completion of the degree. You can draw one easily using a spreadsheet.

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8. **FUNDING**

Start with providing a predicted budget for your project. Include all expenses including assay kits, photocopying, Inter Library loans or document purchase fees, transport, etc. This is also best done as a table.

Explain how the study will be funded. There may be a need to specify some of the sources of funding for specific aspects of the study, or to pre-empt a question as to where funding would come from 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. 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 study.

9. **PROBLEMS**

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

10. **REFERENCES**

The Faculty of Health Sciences uses either the Harvard style or Vancouver style of referencing. For examples of citations, both in text as well as the list of references, see the WHS Library LibGuide on citing the medical literature at [http://libguides.wits.ac.za/whsl-citingmedlit](http://libguides.wits.ac.za/whsl-citingmedlit).

If you cite e-journal articles, the full reference should be given, but use the DOI (Digital Object Identifier) number to replace the URL, as the URL will be specific to the University Library at which you are registered as a student (see [http://libguides.wits.ac.za/whsl-citingmedlit](http://libguides.wits.ac.za/whsl-citingmedlit)).
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