**Main elements of a scientific proposal**

(Based on the National Institute of Health model, USA with modification)

Following are elements of a proposal that we encourage our colleagues to adopt:

1. **Title**

It should be concise and descriptive. It provides the first impression and lasting reminder of the content and design of your study

1. **Abstract**

It is a summary of the protocol that should begin with research question and rational. Then it sets the design and methods and conclude with statement of importance of potential finding of the study.

1. **Introduction**
* Background and significance (This part sets the proposal in context, describing the background in the field under study. It should be written in a way that someone who is not an expert in the field can understand it.
* Aim(s) of the study (It demonstrates that the investigator understands what has been accomplished, what the problem are, and what needs to be done
1. **Literature review (Preliminary studies and experience of the investigators)**

This section should describe relevant previous research skills of the investigator. Emphasis should be placed on the importance of previous work and on the reasons it should be continued or extended.

Pilot studies that support the research question and the feasibility of the study are important.

1. **Methodology**

This section generally receive great intrest from reviewers. It will later serve as the basis for operations manual for carrying the study.

It is important how to organize this section.

It depends on whether you are carrying experimental or descriptive studies. Following are guidelines for descriptive study:

* Overview of design
* Study subjects
* Selection criteria
* Design for sampling
* Plans for recruitment
* Statistical variables (Hypotheses, sample size…etc)
1. **Budget and budget justification**

You generally organize this section at the beginning of the study. Do not leave it to last minute. Budget including personnel expenses, consumables, travel…etc

1. Timetable of the study

This section provides dates when each major phase of the study will be started and completed. This will tell reviewers whether you can accomplish the study in the time specified.

1. **Ethical consideration**

This section is devoted to the ethical issues raised by the study, setting forth the issues of safety, privacy, and confidentiality

This part should indicate the specific plans to inform potential subjects of the risks and benefits, and to obtain their consent to participate.

1. **References**

Faculty of Graduate Studies requires to follow the Council of Science Editors (CSE) style of documentation in science and mathematics.

The CSE Manual recommends two systems of documentation. One is name-year (**N-Y**) based, similar to the APA Manual. The other is a citation-sequence (**C-S**) system that uses numerical listing of sources in the sequence they are mentioned in the paper. Sample papers in both systems follow the examples. You can find the complete coverage of the CSE style of documentation in Scientific Style and Format on the following Web Sites:

[http://writing.colostate.edu/guides/researchsources/documentation/cbe\_citation/index.cfm](http://writing.colostate.edu/guides/researchsourles/documentation/cbe_citation/index.cfm) or <http://writing.colostate.edu/guides/researchsources/documentation/cbe_citation/within.cfm>

**APA: (American Psychological Association)**

you can also find APA- style of documentation on the following Web Site: <http://www.liu.edu/cwis/cwp/library/workshop/citapa.htm>

1. **Appendices and collaborative agreement**

The CBE Manual for Authors, Editors and Publishers, 6th edition, 825 p., compiled by the Style Manual Committee Council of Biology Editors.