

Writing a Project Proposal

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In this document, we will outline writing a project proposal as a Master's student using the NSERC format. While you may not choose to apply for NSERC specifically, the same techniques apply to any award or competition application you may need to write. Most applications will require you to write an abstract, a formal proposal and a bibliography or list of references. Each of these will need to be included in your proposal write-up.

Let's now examine the criteria for completing a general NSERC proposal. Your paper will be expected to contain body text in minimum 12 pt Times New Roman font, to be single-spaced, with no more than 6 lines of type per inch and with all margins set at a minimum of 3/4" (1.87 cm). It is important to think how to express your ideas as clearly and concisely as possible within these set limitations.

The file must meet these following specifications:

1. PDF format (.pdf extension); unprotected
2. A maximum file size of 10 MB, page size of 8 1/2" x 11" (216 mm x 279 mm) or A4 (210 mm x 297 mm)
3. To be a maximum of 2 pages, respectively: Outline of proposed research (one page) and Bibliography and citations (one page)

You must also include an abstract of your proposed research in addition to the 1 page proposed research and 1 page bibliography. This abstract must not exceed an 1800 character limit.

Planning

Firstly, you will need to choose the problem you would like to answer through the project you propose. An example of expressing your problem could be formatted as such:

“Currently, robot developments lack (*Blank*) which causes (*Blank*).”

Following would be your explanation and proposal for a solution to said problem.

Once you have chosen a problem, you will want to choose captivating questions that will be answered throughout your project. For each question, ensure to detail a method or protocol that will aim to answer the question. The reviewers of your proposal will want to see exactly what you plan to do.

It is also a good idea to list your key concepts so it is clear what areas you will be addressing within your project. Once you are confident you have enough notes and plans compiled in an initial outline, you can move onto your first draft.

Abstract

Your abstract should give a concise and complete overview of what your proposal will aim to achieve. Keeping things simple is generally a good practice, as you don't want to confuse your reader. What you should attempt to explain in each portion of your proposal is as follows:

Beginning →

Start by saying what the problem is, then focus on providing the specific questions that revolve around this problem.

Middle →

Explain thoroughly what you are going to do. This includes your intentions, objectives and methods.

End →

Finish with why your specific solution and work will be important. You want to convince the reader that what you are doing is worth it. Consider using real world examples to strengthen your point.

An important thing to note concerning your abstract is that you can write your abstract before or after your full proposal, this ultimately is a decision for you to make.

However it is equally important to note: your abstract needs to encompass your proposal, meaning they need to say the same message. A misaligned proposal and abstract will cause confusion and may result in a poor review.

For the sake of your project proposal, in this class I suggest you create a solid abstract before moving to the proposal. I will be more than happy to give guidance on your abstract before moving onto the proposal.

Proposal

Now for the primary portion of the proposal. Your proposal is simply an expansion of your abstract, where you have the room to explain in depth your problem and methodology. The extra room provided in this format will also allow you to use more captivating language, improving your message. Remember to always ensure your abstract and proposal match what they say.

The following list provides a simple checklist for all the things you should have in your proposal. Following this order is generally a good plan too.

1. Motivation
2. Goals/Objectives/Research questions
3. Approach/Technical Implementation
4. Expected Outcomes + Timeplan

If relevant, you can include in your timeplan any conferences or journals where you would like to submit your findings. This also demonstrates that you are planning into the future.

Finally, tie your abstract and proposal together, making sure to reinstate the importance of your project and to include real world applications, giving a more complete picture for the reviewers.

References and Bibliography

Included in many research papers and projects is a list of references, or a bibliography. This section does not have to be huge, as it is mostly to show you are capable of finding and reading relevant sources or papers to add to your project.

Having a lengthy list of citations of everything you find is not the best practice. Instead only cite papers and resources that are the most relevant to you. Having the ability to weed out non-relevant sources is just as much of a skill as selecting relevant ones.

Important Final Notes

The general idea of a proposal is simple: to just say what you're going to do, in depth. The challenge is ensuring you say EXACTLY what you want to say:

“Saying something meaningful” is different from “meaning to say something”.

Having others read your proposal can help you point out what needs changing. On top of this, looking at your proposal as if someone else wrote it will help too. Be sure to **read what you wrote, not what you meant.** This takes practice, but will greatly improve your writing abilities.