

HOW TO WRITE A GREAT CANDIDACY PROPOSAL

The objective of these guidelines is to assist you in preparing an effective candidacy proposal that is clear, focused and a pleasure to read. Good writing doesn't save bad ideas, but bad writing kills good ones.

The examining committee:

The doctoral Candidacy examining committee is composed of 5 University of Alberta Faculty members. This will typically consist of the students supervisor, two supervisory committee members and two "arms length examiners" An arms length examiner is an individual that is: not a member of the supervisory committee; not connected with the thesis research in a significant way; not associated with the student outside of usual contact in courses or other non-thesis activities; and not a close collaborator of the supervisor. An arms length examiner may be from the same or another department and may serve as an arms length examiner for both the candidacy and Doctoral final examination.

Long before D-day

- Consider the time frame you have to work in. The Candidacy proposal must be submitted to your examining committee **two weeks before the date of the exam.**
- Ask your fellow graduate students for past examples of successful candidacy proposals. Reading good proposals will give you ideas on layouts and styles that could work for you.
- Start thinking of interesting projects and experiments many months before D-day. Try to find an appropriate balance between the "sure" (experiments that have a high likelihood of success but still provide new information), and the innovative or risky (experiments that may not succeed but have potential to provide significant new insight). Avoid being too cautious and doing 'more of the same'. Design experiments to provide new and important information even if the results don't support your hypothesis. Try to incorporate alternative approaches when possible. Show the reader that you are aware the initial approach may not be successful and that you have a back up plan.
- Discuss your ideas with colleagues. Explaining your ideas will help to clarify and focus them and to identify problems. The candidacy document must be your own creation, although you should avail yourself of expertise to discuss ideas and obtain specific information. The supervisor must not edit or revise the document.

General Considerations

- Everybody is busy, so make your proposal easy to read, with a pleasant and attractive presentation. A sloppy application is often equated with sloppy science. Examiners that have to struggle with your proposal are likely to be more critical.
- Use appropriate type 12 pt, font: Times, Times New Roman or Helvetica, use 1 1/2 line spacing and margins 1 inch top, bottom and each side. Do not exceed the maximum number of pages allowed. The main body of the document is limited to 15 pages (12 point

font; 1 1/2 spacing), not including references. Append as many figures and tables as necessary but do not include superfluous material. Remember you are accountable to defend anything you include in this document. Figures not made by you should be attributed appropriately. Figure legends should be sufficiently explanatory for the reader to understand what the figure shows, try to keep each legend to a maximum of 5 lines. Make figures large enough to see all the details sufficiently to evaluate.

- Organize your proposal with appropriate headings and sub-headings. Use a simple and obvious numerical classification. For example, Specific Aim 1 may be followed by experimental approaches 1.1 and 1.2.
- Each paragraph should begin with a strong lead sentence that is interesting and defines the rest of the paragraph. You should be able to get the sense of a proposal by reading only the lead sentences. The remainder of the paragraph elaborates on the lead sentence. A good lead sentence is more effective than a strong concluding sentence.
- Examiners often do their reading in bits-and-pieces. Organize your proposal with this in mind. It can be rather depressing to see 15 pages of dense text without any visual breaks.
- Use the first person (I will measure the activity ...) and an active voice. Rather than "The enzyme is being inhibited by ATP." use "ATP inhibits the enzyme."
- Be ruthless when editing your document. Eliminate statements that do not convey anything important. Scientific proposals are not literature; don't use flowery language and rambling sentences.
- Do not be solely dependent on your computer's spell checker. "If you can't get the spelling right, how are you expected to get the research right?" Have at least one other person read your proposal for spelling, grammar and logic. When editing your own work, there is a tendency to see what you intended to say, rather than what you actually said.
- Avoid the excessive use of abbreviations, acronyms and jargon, especially ones that the non-expert may not understand. If you do use them, define them upon first use. If your proposal contains many abbreviated terms or acronyms, consider adding a table containing the terms and their definitions
- Assume that you are writing for an examiner in a somewhat related field, rather than for an expert directly in your area. Make it easy to read.
- Avoid preparing a fragmented and disjointed proposal. Link all the sections to each other.

Specific Considerations

- Effective proposals are often divided into the following sections:
 - HYPOTHESIS AND LONG-TERM OBJECTIVES
 - SPECIFIC AIMS
 - BACKGROUND AND SIGNIFICANCE
 - RESEARCH DESIGN AND METHODS
 - TIMETABLE
- The TITLE of your project is important and sets the first impression. Make it descriptive, specific and reflect the importance of your proposal. A table of contents page can be an

effective way to help organize your proposal and to orient an examiner.

- **HYPOTHESIS AND LONG-TERM OBJECTIVES:** A hypothesis-driven proposal is usually better received than a primarily descriptive one. Begin with your stated hypothesis and link it to your long-term objectives. Make these concise and specific. Ask yourself what the proposed research is intended to accomplish and what its significance and relevance are?
- **SPECIFIC AIMS:** Distinguish these from your hypothesis and objectives. These are the specific projects or studies you will undertake as part of your long-term objectives. Put your specific aims in a logical and sequential order. Indicate the priority you assign to each one.
- **BACKGROUND AND SIGNIFICANCE:** This section should include the big picture, what is known, what is not known, and why is it essential to find out. Provide a brief outline of the highlights in the background review, including your own contributions, if applicable. Don't drown them in details! You should ask yourself whether each bit of background information is needed. Critically evaluate the relevant literature: this should not be an exhaustive or uncritical list. When a controversy or disagreement exists, discuss fairly all sides. Identify the gaps and contradictions that you will address. Link these into the rationale for your proposal. Emphasize how your proposal bridges the background review and your hypotheses and objectives. State clearly what is novel, and what is merely confirmatory. This section should not exceed half the allotted pages.
- **RESEARCH DESIGN AND METHODS:** The Specific Aims have stated what you propose. Now, you must describe how you propose to achieve them. Consider a brief opening paragraph describing the relationship of the Specific Aim to the Objectives and a one-sentence rationale. Follow this with an outline of the design and methods. Explain why the proposed approach was chosen. Don't repeat descriptions of identical procedures that apply to more than one Specific Aim. Reference, but don't describe well-known or standard procedures. Do describe procedures that are new or unlikely to be known to one or more of the examiners. For a new method, explain why it is better than a more traditional one. Discuss relevant control experiments; this is too often lacking. Explain your data collection and analysis, the expected outcomes and your interpretation. What conclusions do you expect to be able to draw? Be sure to briefly discuss potential difficulties and limitations of the proposed procedures and to provide alternative approaches. This may pre-empt serious criticisms.
- **TIMETABLE:** Provide a brief tentative sequence and timetable for the project. Although not essential for a candidacy proposal, thinking about timelines can alert you to issues pertaining to feasibility. Your proposal should be feasible by yourself and a laboratory technician in three to five years. Many candidacy proposals include a lifetime of work and are unrealistically ambitious.