How to Write a Proposal

The same as any other scientific report

(Well, almost)
Why do we write proposals?
Purpose of proposal
Respond to RFP or RFQ (Request for Proposal, Quotation)
Solicit support
  From granting agency
  From potential client
Convince someone to part with money
  And to give it to you (not me!)
  In this case, convince adviser to let you continue

Format of proposal
Report format (possibly with cover letter or memo), or
Formal memo to adviser
Style of proposal

Same as technical report or paper, but
Written partly in future tense
    Using will not would – be positive!

Write to inform uninformed reader, and

Convince informed reader that you know your stuff

See also GWE, Chap 5
Sections of proposal

Title and Byline

Abstract or Executive Summary (optional)

Introduction or Objective; *clear statement of the problem*, including Background

Theory

Procedures, including schematics, wiring diagrams

Results so far, including Observations (*if applicable*)

*Statement of Work*, including Timeline

Facilities and Equipment, Budget

References

Appendixes
Introduction

Clear statement of problem to be solved
Specifications
Constraints

Background (after problem statement; may be separate section or part of Introduction)

Evolution of the problem
Why the problem is interesting
How it fits into larger framework

You must have a complete Background section, even if you are working on only a small part of a larger project
Body of proposal

Progress report (if applicable)
  What you have done so far
How you will solve the problem
  Solutions you considered and rejected
  Why your solution is the best

Statement of work (additional section besides those in a normal scientific report)

What you will do
  In this case, essentially proposal for 2nd semester
When you will do it (Timeline)
Facilities, Equipment, and Other Resources (available for project) – as appropriate and very brief

Cost analysis – you must have one (even if marginal cost is 0)

Assume appropriate value for your labor

Overhead = 40 % of salary (university work)

Include cost of equipment, supplies, computer programs
References

Cited in text and numbered in order of citation

Required

Typically, 6 *technical* references, single author

PIs use AIP format

*Biographical Sketches* – don’t bother
AIP Style Manual

Has lotsa good advice

Table of contents:

http://www.aip.org/pubservs/style/4thed/toc.html

I. Summary information for journal contributors
II. Preparing a scientific paper for publication (9 pages)

A. Writing the paper

B. Writing the abstract [note separate section]

C. Preparing the manuscript

See Table 2 for AIP reference style

But use “Title” and inclusive pagination

See here for examples

D. Submission of text in digitized form

E. Proofreading the paper
III. **General style** (8 pages)

   A. Grammar and punctuation

   B. Symbols and units

V. **Figures** (5 pages) [See 1997 Addendum Section V (4 pages)].

   A. General instructions

   B. Line drawings

   C. Continuous-tone photographs
      
      “Photographs of apparatus ... are not usually instructive”

   D. Combination figures