

ERE Guidelines on MS / PhD Proposals

- **Cover page**

The cover page includes a research title, your name, your contact information, your degree program, your department and college, your major professor, your steering committee members, and submittal date.
- **Summary**

One-page with highlights for 4 sub-sections: 1) research motivation; 2) research question(s); 3) intellectual merit of research; and 4) broader impacts of research.
- **Introduction**

Concisely explain the: 1) the problem motivating the research, documented by literature citations; and 2) the goal of your research, introducing key terms and concepts, documented by literature citations. This section should lead the reader to the importance of your research objectives, questions, hypotheses.
- **Research Objectives and Questions**

Concisely explain the: 1) the research objective(s) addressing the problem; and 2) the research questions you will answer, also phrased as falsifiable null hypotheses if possible. PhD students strive to propose hypothesis-driven scientific inquiry in addition to task-based applied research.
- **Prior Research**

Concisely explain and reference with citations how your research is informed by prior research, by others or you. As needed, explain and reference specific research gaps or needs influencing your research. As needed, explain and reference specific debates or controversies influencing your research. This section should assure the reader of the validity and rigor of your research questions and hypotheses.
- **Methodology**

Concisely explain and reference with citations your research methods, organized by research question. Provide specific tasks and details such as number of samples and replicates, names of parameters, ranges for variables, and output metrics used to formally answer the research questions or test the hypotheses. As needed, include site description, instrumentation, processes, materials, models, statistical analysis, etc. Confirm you can implement the methods.
- **Expected Results and Discussion**

Concisely explain the expected findings of your research, organized by research question. Relate findings to intellectual merit, such as contributions to scholarly field through publication. Relate findings to broader impacts or outcomes, such as contribution to society through service. Relate findings to outputs, such as products.
- **Schedule**

Concisely specify a timeline (week, month, semester) that tasks will be undertaken and completed. This can be presented as a table, with columns noting time and rows denoting singular or repeating tasks (e.g., setting up experiment, collecting data, analyzing data, meetings, writing, defense).
- **References**

Follow the Instructions to Authors in a prestigious journal of your field on citation in the text and reference list; be consistent in style throughout your proposal. Length varies with research topics.

Additional Instructions:

Proposal with figures and tables should range 5-15 pages in length, with 11+ pt font size, single line spacing, 1 inch margins, and page numbers. Additional pages allowed for the cover page, summary page, references page(s), and appendices such as budget justification, facilities, or support letters. Figures and tables, with captions, can be attached at end of the document. Proposal guidelines can be changed when approved by your Major Professor.