CSC 450, Senior Research
Research Proposal and Reflection

The purpose of a **research proposal** is to convince a funding agency or organization to support the proposed research by providing money, resources, and time, instead of supporting other possible research projects.

In your proposal, you must persuade the reader that the research (1) addresses an important question/issue and is therefore *significant* or *necessary*, and (2) can successfully be carried out by the individual(s) proposing it. In order to accomplish (2) you will need to provide methodological details that show that you've clearly thought through how to carry out your work. Also note that your proposed work (like most research) will not necessarily be "high-impact". However, your proposal should explain to the reader why your project is important.

If your proposal is a **group project**, you will submit a single proposal, which will describe how the work will be divided between team members and that separately addresses each person's qualifications for the work.

Your proposal should contain the following sections: Abstract, Background and Significance, Methodology, Statement of Qualification, Expected Outcomes, and Bibliography. Your proposal will be evaluated using the rubric on the following page and will be graded out of 100 points.

Note for rubric on following page:

[1]Objective: your objective will be to develop a new method, algorithm, or tool, or to answer a specific question (e.g., to determine if Method 1 is faster than Method 2).

[2]Methodology: Clearly state how the work will be divided between team members (you are free to change this later on, but your proposal should indicate that you have thought ahead about how the work will be split up). The methodology describes how you will answer your research question, or how you will develop the proposed method or tool.

The proposal must be submitted through Blackboard before the due date to receive credit. If working in a group, only one person from your group should submit the proposal.

Table 1. Grading Rubric

Component	Points	Poor (D-F range)	Average (C range)	Excellent (A range)
Abstract	15	There is no abstract or the abstract exceeds the word limit.	The description is a little unclear and is missing either the background and significance, the objective, or the methodology.	A clear and concise description of the proposal in no more than 150 words that briefly summarizes the background and significance of the work, the objective, and the methodology
Background / Significance	25	One or both of the sections are missing	The section is not written clearly or is much too technical in nature.	A clear and concise description of the significance and background relevant to the project. These should be relatively non-technical and accessible to an individual with an undergraduate degree in computer science. The <u>objective</u> is clearly stated.[1]
Methodology	25	One of the sections is missing	The methodology is not clear or is not complete. A timeline is provided but is not comprehensive.	The methodology that will be used to carry out the project is clearly provided, and a timeline is included. The timeline includes preparing for and giving a presentation (around the end of April) and writing the final paper (due the beginning of May)[2].
Statement of Qualification	20	Section is missing	Very few qualifications are provided.	A clear statement is made regarding the qualifications of the applicant(s) to carry out the proposed project. If the research area is new to the individual, then broad qualifications may be discussed, providing evidence that the applicant has the ability to carry out the proposed work.
Expected Outcomes	15	Section is missing	Not all expected outcomes are described. For example, there is no mention that a presentation will be given.	All expected outcomes are described, including expected findings from research, and tangible products such as a presentation and a manuscript.

Table 2. Requirements / Deductions

Component	Requirement is *not* met	Requirement is partially met	Requirement
Bibliography (and references)	No references are included (work is not acceptable)	The article does not include the correct number of references, or citations do not follow the specified format (-15)	At least 6 **research articles** are appropriately cited in the manuscript using IEEE format.
Format and Organization	All section headings are missing (-10)	Some of the formatting requirements are not met. For example, the title and bibliography are not bold (-5)	The paper is at least 5 double-spaced pages (not including references), and follows the format of the example proposal. Sections (except the abstract and bibliography) are numbered 1-4, in bold, with an extra line between sections. A footer is included that includes your last names, the course and section number, and Spring 2018. Other aspects follow the format of the Lit Review.
Grammar and Style	Many spelling and grammatical mistakes seriously detracts from the ability to understand the proposal. (-20)	The paper contains a fair number of spelling or grammatical mistakes that detracts from the ability to understand the proposal. (-10)	The paper is well-written and contains very few, if any, spelling or grammatical mistakes.