

COMP3821/9801: Extended Algorithm Design and Analysis

Project Proposal Specification and Marking Rubric

Due Date: 05/10/2025

This document outlines the specification of the proposal component of your projects, and provides a marking rubric that your mentors will use for grading.

The project is designed to be completed in groups of three to five students. If you find yourselves in a situation where your group size has reduced to 1-2 students, due to group members dropping the course, feel free to inform cs3821@unsw.edu.au to be reassigned.

Proposal Specification

Your proposal should contain the following.

1. A cover page with a title of your topic, the names and zIDs of each of your group members, and the name of the mentor of your group; note that this does not count towards the recommended length.
2. An introduction that briefly outlines and motivates your chosen topic and describes the nature of your project – you do not need to state explicitly what type of project you are doing, but it should be relatively clear what type of project it is.
3. A brief survey of the chosen topic, including any currently known results and open questions that your project will attempt to address. You might want to also include some remarks on real-world applications, where appropriate.
 - For theoretical projects, this could include special cases you have thought about or aim to solve, some preliminary directions for your project, and potentially some ambitious goals you want to achieve by the end of the project.
 - For scholarly projects, this could include a summary of the motivations and approaches that have been considered in addressing your topic.
 - For experimental projects, this could include a list of experiments that you are aiming to complete with brief reasoning as to why you have chosen these methodologies.
 - For educational projects, this could include which medium you will be using (e.g. web-page, interactive demonstrations, video, textbook-style writing) and what information you are aiming to cover.
 - For creative projects, this could include what you wish to produce by the end of the term and a breakdown of the project into realisable subtasks and subgoals.
4. A research plan that outlines what you aim to do by the end of each milestone. You should include a set of goals you aim to achieve by Week 7 (i.e. progression check) and a set of goals you aim to achieve by Week 10. You should aim to keep your research plan realistic to the confines of the project timeline.
5. A bibliography (where appropriate).

Note. *Keep in mind that this proposal will not necessarily reflect your completed project. It is expected that many of you will change your plans due to unforeseen discoveries as you proceed throughout the term.*

Marking Rubric

| Survey [6 Marks] | |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grade | Level of Achievement |
| 0–2 | The survey does not sufficiently cover the background required for work on the project. There may be some sources presented, but it is clear that much more review will be required throughout the course of the project. |
| 3–4 | The survey covers the necessary background for the topic, but neglects significant aspects. Sources are adequately referenced. There is some discussion of the students motivations for choosing the topic. |
| 5–6 | The survey covers a wide range of sources and appropriately references them. The students have explained their motivation for the topic, and provided well researched detail on potential real world applications where applicable. |

| Plan [7 Marks] | |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grade | Level of Achievement |
| 0–2 | No clear description of the aims of the project. Plan is not present or does not have sufficient details to demonstrate sufficient consideration of the difficulty involved with the chosen topic. |
| 3–4 | Project aims and plan are presented, but lack detail and a logical plan of investigation. There is enough of a plan to believe that the project is feasible. No specific plan. |
| 5–6 | Project aims and plan are presented and include some details. There is enough of a plan to believe that the project is feasible, and that student understands the resources and time required. |
| 7 | Project aims and plan are clearly presented and detailed, and tie in well with the survey of the topic. The project plan demonstrates a logical and feasible course of action, with realistic targets. |

| Document Presentation [2 Marks] | |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grade | Level of Achievement |
| 0 | Presentation is poor to the extent that it impedes reading of the document. Examples include many incomplete citations, unintelligible grammar, figures or tables not labelled or badly inconsistent document formatting. |
| 1 | Appropriate use of section and sub-section heading structures. Figures and diagrams are labelled, formatting is consistent, references in text match reference list (and vice versa), pictures are clear and attributed, sections clearly labelled. There may be superfluous material present, such as unnecessary, repetitive or unusually large figures, unnecessarily lengthy text, unusually wide margins, unnecessary appendices, etc. |
| 2 | Everything from above, and appropriate judgement in the placement data, tables or figures in the body of the work or the appendices. Figures and diagrams are correctly and clearly labelled, text spacing aids readability, consistent formatting. Text is clear and concise. |