

# Free Choice Experiment Proposal Format

## Proposal Objective

In general, the objective of a proposal is to convince a sponsor, or sponsoring organization, that you, the proposer, can perform the proposed work on schedule and within a proposed budget. If the proposal is being made within an organization or company, the schedule, budget and significance of the work are the primary concerns. If the proposal is being made to answer a solicitation or call for proposals, the proposer must convince the sponsor that the work is of great significance, and that they are uniquely capable of performing the project, and can do it on schedule and within the budget.

The objective of the proposal for this course is to serve as a formal experiment planning and design tool for your group. The proposal submitted by each group should describe:

- the proposed work
- present the method of approach to accomplish the project - describe the tasks
- estimate the time required
- estimate how much the experiment will cost (if any). In the past, we have purchased equipment and materials but these must be approved first.

A group's proposal should be a plan for their free choice experimental project.

## Proposal Format

Generally when a sponsoring organization puts out a solicitation for proposals they will specify the desired formal format for the proposal. If the proposal is being submitted within an organization or company, the process is less formal, and might only consist of a brief "white paper" proposal, a brief schedule, cost estimate, and an oral presentation to "pitch" the project to management. According to Wheeler and Ganji [1], one possible format is:

1. Title page
2. Abstract
3. Table of contents
4. Introduction and background
5. Description of the proposed project, method of approach, and work scope
6. Task descriptions, schedule, and costs
7. Personnel and capabilities
8. References
9. Appendices

Fortunately, **the format of the proposal we want you to submit for the free choice experiment is simpler.** Nevertheless **items 3, 4, 5, and 6 should be addressed in the**

**one or two page proposal we want you to submit for the free choice experiment.**

Your proposal must include at least one paragraph on each of the four topics discussed below as adopted from [1]:

1. ***Introduction and Background:*** Discusses the background, importance or significance, applications, etc. of the proposed experiment.
2. ***Description of the Proposed Project, Method of the Approach, and Work Scope:*** Describe the general approach of the experiment, the apparatus and instrumentation, and the test procedures. Discuss data reduction and analysis. How will it be manipulated? How will it be presented? Will some attempt be made to correlate the data or establish a new theory? When the reader has completed this section, they should have a good understanding of what is going to be done. Demonstrate that you know the methodology to conduct the experiment, and understand the scope and limitations of the problem and the proposed work. This section is the heart of the proposal.
3. ***Task Descriptions:*** Break the work to be done down into discrete tasks, and describe them and the sequence in which they will be done. Many tasks can be done simultaneously by different group members by distributing the work effort. Try to layout these plans in this section.
4. ***Schedule, and Costs:*** Present a brief schedule of when tasks will begin and end. Estimate what if any costs you might incur.

[1] Wheeler, A., and Ganji, A., *Introduction to Engineering Experimentation*, Prentice Hall, 1996, p. 381.