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Writing@CSU Writing Guide

Engineering Proposals

Consulting engineers aren't the only engineers who write proposals. For instance, in academia, engineers write proposals to receive funding for their research or even to initiate a project. Some engineers produce proposals to be read and approved by management while others send proposals to specific funding agencies or clients.

Definition of Proposals

A proposal is a description of the work you will complete on a project. The details included in a proposal depend on the project's scope and who will read the document. Typically, organizations advertise a need for proposals and consulting engineers respond to the need. However, as an engineer, you may determine that a problem exists, and therefore, propose solutions to an organization. In this case, you must first convince the agency that the problem exists before proposing your solutions.

Types of Proposals

Different types of proposals are necessary for different projects. In academia, engineers produce grant proposals or research proposals in order to receive funding from government agencies and non-profit organizations. In industry, engineers, especially consultants, write proposals or "bids." Engineers produce these proposals for the company where they are working or for other organizations.

Audience

A proposal's audience is those supporting the proposed project. The details you provide in a proposal may change, depending on your audience. For instance, if you submit a Proposal to your company's management, you may not have to include project costs or other background information. On the other hand, if you produce a proposal for an organization outside your company, you may need to provide more details. These details might include a rationale for why they should fund your project, as well as the necessary materials and costs. Before writing a proposal, you should always research your audience's background. This way, you will have a better idea about what information to include in your proposal.

General Format

You can submit a proposal in several ways, depending on your audience. For example, proposing a project to your supervisor may require a phone call or a quick e-mail. Or, you may write a short memo, outlining your ideas. On the other hand, you may have to produce a lengthy proposal that provides project background and completely describes the proposed work. Typically, you will know which format to use based on the proposal's context.

When you write a lengthy proposal, you will have to spend time conducting research before you begin writing. This research might include locating other designs and theories to refer to as examples or to critique. A proposal might also include graphics to help an audience visualize your ideas. You might incorporate other data, such as dollar figures and time schedules, so your audience knows exactly how long the project will take to complete and much it will cost them. To read more, choose any of the items below:

Introduction

In the proposal's Introduction, you should provide information about the need for a proposal. In other words, here is where you state **why** you are writing the proposal in the first place. You should also provide an overview of what the rest of the proposal includes.

Qualifications

In the Qualifications section, you should show that you and your organization (if applicable) are skilled and capable of completing the proposed work successfully. You should view this section as a "resume" since in it, you will depict your skills and experiences. If your audience is your supervisor or other managing decision-makers, then you may not need to include this section.

Background

In the Background section, you should depict the problem/situation that lead to your writing a proposal. Here, you should show that you thoroughly understand the problem. If your audience already knows the Background, you may not need to include this section. For example, your supervisor or other managing decision-makers may already be familiar with the specific problem. Therefore, you don't need to tell them what they already know.

Work Schedule

The Work Schedule section does exactly what its name implies: It presents the time frame in which you will complete the proposed work. This section informs your audience of what to expect from you and when. It also helps to keep you organized. If, after you begin working, you are unable to keep this schedule, you should always communicate changes in deadlines to the appropriate people.

Proposal Statement

In the Proposal Statement section, you should inform your audience of exactly what you are proposing. You should also include what you **aren't** proposing. For example, if you are proposing partial work on a project, state this and then verify what your work will not include.

Costs

In the Cost section, you should present what costs you anticipate your project will involve. To do this, divide your expenses into categories and provide dollar figures. For example, labor costs for each worker, materials, etc. Then, you might provide a total cost.

Results

In the Results section, you should discuss the outcome of your proposal. The types of outcomes resulting from a proposal cover a wide range. For example, you may be creating a design, building an actual construction, or even producing a lengthy report. Be sure to state exactly what the Results will be.

Conclusion

The Conclusion section is similar to the ending of a cover letter. Here, you should summarize why you should be considered and how you can be contacted. You might also reiterate why you are the best person or group for the project.

Methodology

In the Methodology section, you should present how you will complete the project's work. This is similar to a Lab Report's Procedures section in that you have to discuss the steps you will have taken to reach a final goal.

Perspectives on Proposals

Dave Alciatore, Mechanical Engineering

Internal Proposals

"You're likely to write internal proposals if you work with a product development group in a big company. For example, you might conduct research on possible new product lines. Then, you would write a proposal to communicate that you want to pursue this product, but that it will involve testing and development. In other words, it's going to cost money. In order to get financial support, you have to write a proposal that presents your plans. This includes the benefits of the product in terms of profit."

Tom Siller, Civil Engineering

Consulting Engineers

"If you are a consulting engineer, you will work in a very competitive environment because you have to sell your services. In order to get work on a project, you have to submit a proposal or give a presentation. To do this successfully, you have to know who your client is and what that client expects."

John Mahan, Electrical Engineering

Proposal Types

"Engineers write many different types of proposals. Sometimes, a proposal has to be powerful and business-oriented. Many companies don't want to look too far into the future, not even past two years. So, you have to be very specific and down to earth. You have to tell them when exactly you will complete the work. In Phase One, you'll do x. In Phase Two, you'll do y. You should also include the benefits gained during each phase."

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