

NOTE: This document contains the proposal instructions. It is also a model of how your finished proposal should look.

SURF proposal instructions: A guide for content, tone, and formatting
by the advisors in OURSD

Abstract

This document models an effective **SURF proposal**. The proposal is made up of three pages of content, plus additional pages for references and supplemental material as needed. In it, you must describe your planned research or creative inquiry project in detail. It is the most important piece of your SURF application because it assures us that your work is sound. To write an effective proposal, you must: 1) contextualize your work, state your objectives, and explain why those objectives are significant to your discipline and to broader society; 2) concretely describe your methodology with enough detail and justification to convince readers your methods are feasible; and 3) convince your readers you have the background and support needed to carry out your project. Below, we describe the proposal in detail and model a reasonable style and format. After reading, you should have a clear picture of how to frame your work for a general audience, and you should understand how to write a competitive SURF proposal.

Notice that the preceding paragraph only outlines the content we will cover and introduces key concepts without elaborating much. When you keep the abstract high-level and written in plain language, you invite non-expert readers in, rather than driving them away with too much complexity and jargon. Many writers find it easiest to craft an effective abstract after drafting the rest of the proposal. Please note that your abstract is *a summary* of the proposal, **not** an introduction section. It should outline the key components of your objectives, contribution, and methodology.

Project objectives & contributions to the field

The Objectives and Contribution section is a major component of the proposal. Done effectively, it will 1) convince the reviewers that your proposal is well-thought out and has a clear goal, and 2) explain how your research or creative inquiry contributes something novel and significant to both your disciplinary audience and to broader society. The Objectives & Contribution should be one of the longest sections, occupying roughly one full page. Write in prose form with complete sentences—imagine describing your work to someone face-to-face. Include in-text references (in whatever citation style is common to your field) to other relevant scholarship (Type II) or the artistic or creative influences that inspire your work (Type I) to situate your project in conversation with other scholars and artists (Office of Undergraduate Research and Scholar Development, 2026).

Your proposal is read by a generalist audience. Specifically, your readers are: a faculty member from a *related* department, but not necessarily a specialist in your field; a faculty member from an *unrelated* department, and an advisor from the Office of Undergraduate Research and Scholar Development. As such, readers will not be familiar with the details of your field—they are scholars, but not specialists. To bring them up to speed, you might begin with some broad context for your research, then guide the reader to more narrow and specific research question(s) or objective(s). Many writers underestimate how much work is needed to effectively introduce their research questions(s) or objective(s). Consider the following paragraph:

Undergraduate students at Carnegie Mellon University (CMU) pursue research and creative inquiry to bolster their training. To secure funding for those projects, students must write a proposal. A good proposal convinces readers that the project is worthwhile

and well-founded, so students must write a thorough Objectives & Contribution section. That said, many students find this section difficult because it requires them to concisely synthesize a lot of information. To help them write their Objectives & Contribution section effectively, students need clear guidance. To address this need, we will create an instructional document and model for a strong SURF proposal.

Notice that the first sentence of the passage begins by simply establishing the situation. Each subsequent sentence reiterates key information from the previous, then builds on it by adding something new. The last two sentences introduce a problem, then identify an approach to that problem. By the end of the paragraph, we arrive at a narrower goal that is situated in context. There are many ways to establish a “gap” and explain how your research might address that gap.

Consider a few more potential structures.

- “Most research focuses on [A], but there are few studies that address [B].”
- “There is a need for more work that responds to [X].”
- “Existing scholarship claims [A], but this is insufficient because [Z].”

After establishing a gap, you should pose some expected outcomes. For example, if you are proposing experimental research (Type II), state one or more hypotheses. If you do not have formal hypotheses (non-experimental Type II), you should still state expected findings. If you are proposing a creative project (Type I), discuss specific insights your work aims to illuminate. Regardless of your discipline, you should tell us the insights you hope to gain from your work. You might use phrases like, “we expect this approach to result in [A],” or “exploring this question reveals connections between [A] and [B].”

You should also zoom out and address real-world applications of your research or creative inquiry. What are the downstream effects of your work? Ultimately, what will your findings offer to the world? Even the most fundamental research has impacts—if your research is primarily of interest to other scholars, think about how those scholars might take up your findings in applied contexts.

Methodology

Your Methodology is as important as the Objectives & Contribution section. In it, you must clearly explain your project design, concretely describe the specific tasks you will perform, and thoroughly justify your methods by explaining how they address your objectives. Your methodology section should be easy for nonspecialists to understand. Some writers find it helpful to split their methodology into subsections (as we have in this document) based on aims or “phases” of the project. Only do this if it obviously improves the clarity. Write in full sentences and in prose form, even if you break the methodology into subsections. This section should occupy roughly one page, and may contain references.

First, summarize your project design. For Type II proposals: are you conducting an experiment with independent and dependent variables? Conducting surveys or interviews? Systematically analyzing documents? Trying different approaches to a problem and documenting your progress towards a solution? For Type I proposals: are you analyzing existing artistic work and creating your own in response? Exploring a particular theme through an artistic medium? These are just a few examples. Try to summarize your project from a “bird’s eye” perspective in a few sentences.

Next, describe your specific research tasks. Think about how you might recall a step-by-step process in any other context. The reader should be able to picture you performing the procedures you describe. Consider using sequential language like “first,” “next,” and “finally.” You may have been told not to use first-person pronouns (“I” and “we”) in academic writing, but it’s acceptable and often effective here. Consider the following sentences:

- 1) “Conceptual abstraction results in prose density and low interpretability.”
- 2) “When we make concepts abstract, we write dense prose that is hard to interpret.”

Which one feels easier to comprehend?

Third, elaborate on the equipment and materials needed. For example, in Type II research, you may need tissue samples for a biology project, actuators for a robotics project, or human participants for a psychology project. In Type I research, you may need canvases for a painting project or books for a creative writing project. Do you have access to these pieces of equipment or materials? How and from where will you obtain them? For example, if you are doing human subjects research, what are your inclusion criteria for participants and how/from where will you recruit them?

Then, justify your methodological choices. For each technique you describe, tell us why you’re doing it. If you simply list techniques without giving your rationale, your readers won’t be able to tell if your methods are the best choice to help you achieve your research objectives. Sometimes, researchers borrow particular techniques from other studies—if you do this, you should cite the study you’ve sourced. If a given technique is a very common or standard in your field, say so explicitly, and cite articles to back up that claim. Make clear how your proposed methodology will directly answer your research question(s) or achieve your research objective(s).

Finally, give a projected timeline. Tell readers how you will spend the 8–10 weeks of SURF. Use your judgement—we know your timeline may shift as your project evolves. You can break this up by weeks (“In weeks 1–2... In week 3–5...”), or day-by-day as needed. Even if your methods are trial-and-error based and flexible in timing, set some incremental goals during the 8–10 weeks.

Applicant background

In the background section, explain how you connected with your SURF mentor and how long you’ve been conducting research or creative inquiry with them. Highlight particular experiences that have prepared you for your proposed SURF—this might include previous research or creative projects, internships, jobs, or work with student organizations. Consider listing relevant courses you’ve taken as a CMU student. You might also name a few particularly salient skills (such as software, lab skills, artistic techniques, etc.) or any relevant research methods that you’ve used before. Rather than simply listing these items, be sure to explain a bit about how they will inform your approach to your SURF work. This section should be written as a single coherent paragraph.

Feedback & evaluation plan

This is another short section. Tell us who your mentor is and describe how they will provide feedback on your progress over the summer. If you plan to have a regular meeting with your mentor, tell us how often. If they will be evaluating your work according to any specific criteria, tell us what those criteria are. If you are working with graduate students or other members of a research group, tell us their names and to what extent they will be involved in your mentorship.

Dissemination of knowledge

In this section, explain how you will share the results of your project. At a minimum, include Meeting of the Minds (Carnegie Mellon's undergraduate research symposium)—but if you are considering other venues like a departmental poster session, a conference, or a publication, mention them here.

References

Office of Undergraduate Research and Scholar Development (2026). *Summer Undergraduate Research Fellowship Proposal Instructions*. Retrieved October 26, 2026 from <https://www.cmu.edu/uro/summer%20research%20fellowships/SURF/index.html>