

Undergraduate Research Award

Application Advice/Sample Responses

Note: While proposals must be technically accurate, writers should strive to communicate the work they propose and its importance to a broad audience.

I. Statement of Specific Aim(s), Purpose(s), or Goal(s)

A concise, complete statement of what the principal goal or goals of the research will be. What new knowledge or interpretations you seek to discover, create, or demonstrate.

Not so good: To write a book

Better: To write a book about animals working together on a farm.

Best: To write a book about political power corruption in an ideal community, using animals working “collectively” on a farm as an analogue for human behaviour. The book will be a commentary on how the good intentions of communism get corrupted. The allegory in the story will serve to educate people on the pitfalls of government.

II. Motivation

Explain why your particular topic is important to the professional community, and perhaps to society. Because the “motivation” section is generally based on a literature review, most of the references will be cited here. The motivation section may end in a conclusion about the gaps in knowledge about the particular topic, and the conclusion will lead nicely into a repeat of the statement of the specific aims of the proposal.

Not so good: Nobody has done it yet.

Better: Heart disease is the number one killer of Americans.

Best: Atherosclerotic plaque is a material that progressively builds up within human arteries, and gradually blocks the blood flow to critical organs like the heart or brain [1,2]. Currently, clinical procedures are only approximately 50% effective [3-7]...etc., etc. It is clear that little is understood about the mechanical properties of the plaque, therefore I intend to perform tests to...

III. Methods

Explain how you intend to carry out your research, and therefore, how the specific aim(s) will be fulfilled. You need to explain in enough detail so that a reviewer can judge whether your project has a chance of succeeding.

Not so good: I will work in my advisor’s studio.

Better: My mentor is an expert at producing avant-garde multi-media stage shows, and my project involves such a production.

Best: I intend to first research methods of combining different audio-video techniques to most effectively get a message across. My mentor, who is an expert in this area, will guide my initial efforts. Since the title of the production is *Sin and the Senior Sykology Student*, I will focus the

message of the performance work on....Once the piece is written, production will begin in the Fine Arts Building, etc.

IV. Evaluation and Dissemination (How do you plan to evaluate your work at the end?)

Explain how, when you have completed your work outlined in the methods, you will determine whether your goals have been met. How will you, or the intended audience, evaluate your research? If your first approach doesn't work, what alternative methods will you try? How will your results be shared with the intended community?

Not so good: I'm sure it will work.

Better: I will analyse the data and create a graph of the correlation between rat pregnancies and whether the male and female rats were ever in the same cage.

Best: The hypothesis that male and female rats need to be together in the same cage to produce offspring will be tested by correlating the birth and proximity data. Standard statistical procedures will...The results of this research will be included in the paper that my mentor is preparing on raising rats in the lab, in the *Journal of Rats*. It is possible that there will not be enough of a correlation because of the low number of samples, etc., etc....If the results of the research are not positive, knowledge will still be generated, and the research community will know not to feed goldfish to rats, etc., etc.

IV. Budget

What is the total funding needed for this project? If additional funding will come from other sources, state these. What is the total funding requested from the URA program? How will the money be used?

Not so good: The money will enable me to perform the research.

Better: Part of the money will be used for research materials, like books, and some will be used for lab supplies.

Best: \$800 will be used to survey participants for their time (\$20/person x 40 participants). \$100 will cover the cost of survey preparation (copying, photography, etc.). \$300 is needed for transportation reimbursement to and from the interview meeting locations. \$300 will be required for computer analysis and final report production.

V. Role of the Faculty Advisor

Explain how you will interact with the faculty mentor, and how you will ensure that you are meeting expectations in your own research project.

Not so good: My advisor will help me perform the research.

Better: My advisor will help me define my model and guide my research and analysis.

Best: My advisor will guide my initial literature search by providing materials based on her experience with this topic. I will be responsible for reading and interpreting the literature, and my mentor will meet with me once each week to discuss the literature. I will propose a method to model the economic structure, and ask my mentor's advice and criticism based on her research experience. My mentor and I will work together on the final form of the model, but I will then perform all computer simulations.