Guiding Students In Research Grant Proposals

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WILLIAM & MARY
CHARTERED 1693

Charles Center Grant Overview

Due February 17th

- Charles Center Summer Research Grants (CCSRG) - $4,000
- Honors Fellowships - $5,000

Due March 3rd

- First-Year Monroe Scholars Summer Research Grant - $1,500
- Sophomore/Junior Monroe Scholars Summer Research Grant - $4,000

Basic Application Components

- Unofficial transcript
- Title
- **Abstract**
- **Methodology**
- **Resources**
- Relevance/Significance
- Deliverable
- Personal Statement
- Citations
- **Institutional Compliance Approval**
- **Faculty Recommendation Form**
- Project Proposal (2-minute recorded presentation w/o video)

The Faculty Mentor’s Role in the Proposal Stage

- Feedback & Consultation
  - From project concept to final draft
  - Proposal is student's own writing
- Recommendation Form
  - What is noteworthy?

Reviewers

Faculty Members of the Undergraduate Research Committee

Student proposals will be evaluated by three faculty members reviewing individually:

- one from the same discipline as the student's research,
- one from an adjacent area
- one from a completely different field.

Evaluation Criteria

CLARITY OF PROPOSAL

Is there a well-defined research question? Does the student clearly convey the impact/big picture of the research project? Is the proposal well written? Could a layperson understand the main points of the proposal?

METHODOLOGY

Is the proposed methodology appropriate for the research question being asked? Is a project timeline provided? Do the research steps make logical sense?

PREPARATION

Candidate's academic or other preparation for project. Does the candidate have sufficient background or training such as coursework, research, etc. (formal or informal), to make the project a success? (This is based on transcript and prior experience, which may be reflected in the personal statement.)

FEASIBILITY

Feasibility of proposed project. Does the candidate have access to the necessary resources to make the project a success? Can the proposed work be completed in the proposed timeline? Does the advisor recommendation form indicate a degree of support that will allow the project to be successful?

PROPOSAL PRESENTATION

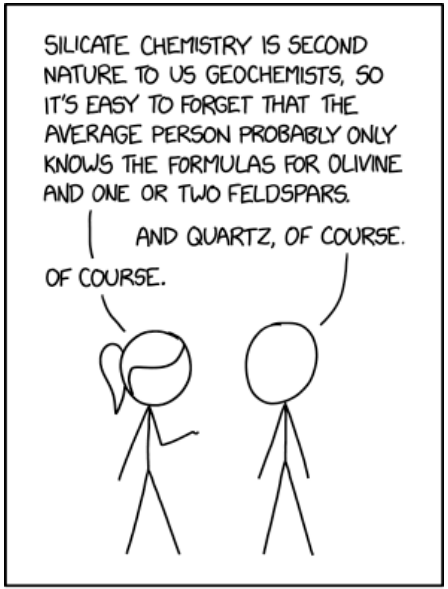
Can the student communicate a clear understanding of the project's big picture?

PERSONAL STATEMENT

Does the project fit into the student's intellectual trajectory?

Tip #1: Write for a General Audience

- Describe research in clear, plain language.
- If you must use technical terms, jargon, or acronyms, explain what they mean.
- Anticipate and answer audience's questions.



xkcd.com

Tip #2: Tell the Research Story

1) State the context and set-up
- What background do people need to know?

2) State the problem/research question
- What is the knowledge gap here?

3) State the strategy
- How will you go about answering the question?

4) State the significance of this research
- Why is exploring this topic important?

Research Stories (Howe Writing Center)

The Elements of a Research Story

#1 The Setup

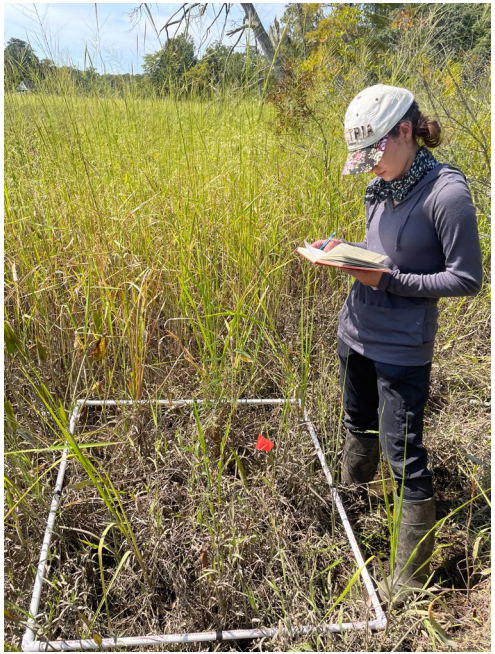
#2 The Research Problem

#3 The Strategy

#4 The Impact

Reactive oxygen species (ROS) in the body cause oxidative damage to proteins and DNA, contributing to inflammation, aging and neurodegenerative diseases like Alzheimer's. While antioxidants in food have been studied extensively, the role of chlorophyll from food has not been well-investigated. The Landino lab is interested in select antioxidants that may undergo red light-dependent reactions within the body. Chlorophyll obtained from food may be integral to this antioxidant recycling process, limiting ROS damage. Preliminary data shows that chlorophyll-derived photosensitizers can undergo these reactions when bound to chemical detergents. This project will explore whether these reactions happen when photosensitizers are bound to a protein like serum albumin, a common blood protein. Broadly, the project aims to see what happens to chlorophyll after it's ingested, and whether eating chlorophyll-rich foods can stave off aging and disease.

Tip #3: Emphasize a Feasible Plan



Methodology: the how, where, and when

- Clear project timeline of the steps needed to pursue an answer to the research question/problem
- Shows the student has thought through the resources and strategies they'll need
- Is this realistic to complete within the allotted timeframe?

Example #1: Mentor's Existing Project

- Student and mentor meet to discuss the scope/design of the project and what the student's role will be this summer.
- Mentor provides resources to ensure student has ample background knowledge.
- Student writes draft of application responses on their own and brings it to mentor for feedback, who ensures it's accurate and detailed. (Repeat as needed)
- Student takes draft to non-specialist reader for feedback.

Example #2: Student-Led Project

- Student approaches mentor with an idea for a research project. Student has already done background research and has a preliminary plan for the research question and methodology.
- Mentor provides guidance on exploring previous research on the topic and provides feedback to ensure question and plan are feasible and substantial.
- Student writes draft of application responses on their own and brings it to mentor for feedback (Repeat as needed).
- Student takes draft to non-specialist reader for feedback.

Additional Resources for Students

- Writing & Communication Center

- Research Ambassadors
  - Student liaisons with the Charles Center