Tips and Guidlines for SRP work

Research Question Wording

Good research questions have the following features:

- Simple
- Require judgement
- Lead to debate
- Has multiple perspectives
- Manageable scope
- Clear vocabulary
- Researchable
- Allow for middle ground

Project Description

The project description must not just fit within the word-count guideline (250 words) and template; it must be able to stand alone as a description of your work.

- **Topic:** The project description should begin by explaining to the reader what your project is attempting to answer/address/contribute to. Is there a problem that needs to be solved? An overlooked topic that could contribute to an existing body of research? A form of art that could contribute to awareness on a topic? An investigation of a field or career that contributes to your understanding/future plans?
- **Significance:** Write why this project or problem is significant. Even if there is no indication on how the project will turn out, or what results may be produced, the reader should understand why it's important.
- **External Experience:** Explain where the project will be conducted (whether in person or remotely), and state why this location/company/group is a good place to pursue your topic of inquiry.
- **Methods:** What methods and means will be used to address the topic? Summarize the approach to the topic, and indicate the reasons for it.
- **Hypothesis/Expectation:** This does not have to be a firm hypothesis but rather an expectation of the results. What do you hope to do/discover/find/contribute to?

Tips

- Keep it in present tense as much as possible (incorporation future tense where appropriate for results not known, i.e., "This project addresses X, and will evaluate the effectiveness of doing Y in Z conditions"). Even if some of the results are already known, keep the tone of the project description more like a preview. Readers should not see conclusions in the project description; that is what the presentation is for.
- Find other readers who can say whether or not the project description is cohesive and clear, and if anything can be cut.
- Keep it concise — try to complete the project description in fewer than 250 words, as even a 250 word project description might not fit in the allotted space.
- Remember that the project description might need to be revised during time off campus, so check for email from the advisor or administration often.
- See the following examples for writing the project description

Example 1

FAULTY FORENSIC EVIDENCE AND FALSE CONVICTIONS
BASIS Faculty Advisor: XXXXXXXX

External Advisor: XXXXXXXX
Location: Arizona Innocence Project

PROJECT DESCRIPTION
In criminal law, the standard to convict is beyond reasonable doubt. Due to this incredibly high standard, expert testimony is key to a jury's verdict, and forensic evidence is the "proof many juries need to convict beyond a reasonable doubt. But not all forensic sciences are created equally, and faulty forensic evidence can have drastic consequences. The Arizona Innocence Project has a number of cases in which scientifically inaccurate forensic evidence was used to falsely convict, leaving innocent people in prison for decades. Here, we show the relationship between faulty science and false conviction. By working with these cases hands-on in the aftermath of conviction, we can examine how this evidence directly affects convictions and how the truth about its scientific invalidity can be hidden from jurors, judges, and defendants. Our justice system is meant to be based in truth and evidence, and improperly relying on forensic evidence can not only convict an innocent person, but it can set free a guilty one.

Example 2

PERFORMANCE TESTING OF MODEL FOR A ROBOTIC PROSTHESIS
BASIS Faculty Advisor: XXXXXXXX
External Advisor: XXXXXXXX Director, Center for Bioengineering Innovation
Location: Northern Arizona University

PROJECT DESCRIPTION
Have you ever wondered what it takes to power a powered foot-prosthesis? Or maybe you didn't know it needed power at all. For the past few years, powered foot-prostheses have become more and more popular in the world of physiology. How does this tie into the human body? The human ankle acts as a spring by exerting and releasing energy and force into the foot. The goal of the prosthesis is to generate the same amount of ankle torque that is given off by a human ankle during the gait cycle. The gait cycle is the sequence of events that occur during normal walking. By studying the forces exerted and created in the gait cycle, the NAU lab team can adjust the forces given off by the motor in the foot prosthesis to match those of an intact human ankle. My role is to aid the team in collecting and analyzing the data and applying the newly found modifications to the device. The long-term goal is to allow people with lower-limb amputations to walk as comfortably as possible along various terrains and to make walking with a prosthesis feel as if it were an intact human ankle. By conducting this sort of research, the field of physiology is advancing the technology used in foot- prosthesis devices which can further be used to advance the prosthesis devices of other body parts such as arms and legs.