AJRSA

American Journal of Rising Scholar Activities

A Purdue University, peer and editor reviewed,
undergraduate STEM research and activities journal

Expectations for Paper Describing Self-Directed Research Project

Students preparing this type of paper will have completed a Multi-disciplinary Engineering Research Fellowship (MERF) experience. The purpose of this paper should be to describe the technical work that the student was able to design and complete. This piece should be both descriptive and reflective, and it should typically be between 3,500 and 6,500 total words in length. The document should be in past tense, passive voice, and third person. It should utilize technical writing style. Although other sections can be included, the paper should include, at minimum:

Abstract – A short description of the entire paper with the student's concept and project execution clearly summarized. Additionally, a short description of the rationale should be included. The abstract should be between 250 and 300 words long.

Keywords – Three to six words that are descriptive of the overall experience should be listed.

Introduction – This section should introduce the research project, the technical mentor, the experimental design, and the project execution. The introduction should include a plan of development for the balance of the paper and be roughly 10% of the work.

Problem Statement – This section should describe the larger goal of the specific problem that the student investigated and their perceived contribution with the research effort. The problem statement should generally be about 30% of the work.

Research Contribution – This section should describe, in detail, the work performed by the student. The results of the student's efforts and their contribution to the state of human knowledge should be described. The research contribution piece should represent roughly 45% of the overall paper.

Summary & Conclusions – This section should restate the specific contribution of the student in a concise manner and describe how that work could be utilized moving forward. Future effort that will be planned resulting from the student's contribution should be described. The summary and conclusions should be roughly 15% of the paper.

Acknowledgements – The student should identify and thank the technical mentor, graduate students, other undergraduates, or anyone else that assisted in making the overall experience worthwhile.

References – The student should cite at least five non-web references in name (date) format within the paper and use APA6 format for the bibliography.

Tables and Figures – The student should include at least one table and one figure within the paper with proper captioning.

Writing Process and Editorial Review – The student should produce a draft paper of the experience as quickly as possible following the conclusion of the MERF work. The student will participate in peer editing during the seminar after the experience. The student is responsible for responding to the peer comments and improving the paper. The student will then need to respond to the editors' comments prior to publication. The student will receive a proof-copy before publication. This will be the final opportunity to make changes and improvements before publication.