

Faculty Information Literacy Stipend
Final Report

Name: Brett Story

Course: CEE 5/7308 Smart Infrastructure and Environment

Semester: Spring 2024

Introduction

The cornerstone of CEE 5/7308 is a semester project in which students write and present a National Science Foundation (NSF) mock research proposal. One of two major components in the proposal is the comprehensive literature review (the other is a presentation of preliminary results using technical tools developed in class). The literature review is the critical step in determining if a student's proposal is appropriate, novel, and properly motivated. In past semesters, we have found the literature review to be the weakest part of student proposals. Upon consultation with Sylvia Jones, we created assignments, presentations, and rubrics designed to improve student understanding of appropriate source research, attribution, and ultimately, literature review. Improvements to the course supported by this award were successful and impacted student learning. I will continue to work with Sylvia in future semesters.

Description of the information literacy assignment or activities

The primary

Method of assessment

Students were asked to provide more information literacy-specific assignments and deliverables this semester; these activities greatly aided the final results of their individual narrative literature reviews in their final proposal projects. Students demonstrated learning with a written annotated bibliography.

Summary and next steps

After discussion with Sylvia, I would like to continue to involve the library in a presentation each semester the course is offered and have a library member join presentations when available. Students valued connecting personally with Sylvia. Additionally, I would like to assess the final project at a more granular level (similar to the mid-semester project in Table 1). I would also like to include one more assignment to

Evaluation Form for Annotated Bibliography

Spring 2024
CEE 5/7308

Evaluation Criteria
Min:1 Max: 5

PAPER (Student)

Project

Preliminary Proposal Report and Presentations Due 6:30 pm, Wednesday, March 6, 2024

Final Proposal Presentation Due in class April 24, 2024

Final Proposal Due 6:30 pm, Wednesday April 24, 2024

The project in this course will comprise developing a National Science Foundation (NSF) style grant proposal for funding a smart infrastructure project of your choosing. You will select a call for proposals posted on the NSF website that you wish to respond to. You will then formulate a project plan and provide a proof of concept with preliminary results. Each project must encompass two of the main areas detailed in the infrastructure report card. Students must work on this project individually.

The project will be divided into two main submissions: a preliminary proposal, which will be due partway through the semester, and a final comprehensive proposal, which will be due at the final.

Preliminary Proposal [Report – 10%, Presentation – 5%]

The preliminary proposal will comprise a report containing the following:

Identification of an NSF Call for Proposals

The NSF puts out calls for proposals for areas of research that they are looking to fund. It is the responsibility of you, the researcher, to identify appropriate calls that are in line with your project goals. A full A-Z index of current NSF funding opportunities can be found here: <https://nsf.gov/funding/azindex.jsp>. The opportunities are sorted by topic; topics such as “Civil”, “Cyber-Physical”, and “Engineering” may be helpful.

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Literature Review

When performing research, it is important to understand what research has already been done in the area you are focusing on. This is important because (1) it allows you to ensure that the work you are doing is novel (the NSF will not fund you to reinvent the wheel), and (2) research performed by other researchers in your area may provide insight into better ways to solve the problems within your own project (or you may identify gaps in the existing research that your research can fill). Specifically, you will be able to: (1) Discern legitimacy and context of sources, (2) balance broad vs. focused inquiries, and (3) identify appropriate research gaps.

Identify 20 sources that discuss research findings applicable to your chosen area of focus or characterize the problem. Focus on articles that have been published recently (2020-present). One helpful tool is <https://scholar.google.com/>, which functions just like normal Google (keyword searches) but returns only links to journal articles. We will have a guest speaker, Sylvia Jones, from the library on 1/31/2024. She will provide an overview of tools from the library along with some tips on literature reviews and sources in general.

From your pool of 20 sources, choose 10 and perform a detailed annotated bibliography. Provide a summary of each journal article (what did they do, what were their conclusions, etc.) as well as how the research contained within pertains to your project of choice. A guide for constructing an annotated bibliography can be found here: <https://guides.library.cornell.edu/annotatedbibliography> Use the ASCE citation style guide for citing your selected journal articles. A description of the ASCE style guide can be found here: <https://www.canterbury.ac.nz/library/support/citations-and-referencing/asce-citation-style/>.

CEE5308 Students may identify 16 initial sources and choose 8 for the detailed bibliography.

Preliminary Proposal Formatting Requirements:

Preliminary reports must follow NSF formatting Guidelines and should include a (1) Detailed Cover Page (NSF, call, duration, budget, due date, etc.), (2) Project Summary, and (3) literature review.

Preliminary Proposal Presentations:

Preliminary proposal presentations will comprise 5 minute presentations with a 1-2 minute Q&A.

Specific Requirements (e.g. formatting, etc) will be made available prior to the submission deadline; exact details on the deliverables are subject to change prior to submission.