CSCI 16: Introduction to the Computer Science Research Process (Winter 2023)

Course page	https://glow.williams.edu/courses/3612711
Instructors	Kelly Shaw (kshaw@cs.williams.edu)
Class Schedule	TuWeTh 10:00 am - 11.50 am
Class Location	**Classroom:** Wachenheim 002

Course description: This course introduces students to the research process in Computer Science. Students will learn how to find and critically read research papers, formulate and describe a research problem, propose a solution to that problem, and design an evaluation plan for assessing the effectiveness of the proposed solution. Students will learn about the general research framework through readings, videos, in-class activities, and class discussions. Throughout the course, students will apply those general research methods to a research question in an area of their choice (e.g., machine learning, algorithms, parallel architecture, etc.), working in groups of up to three students.

Specific research activities that will be explored include
- reading a technical research paper;
- conducting a literature search;
- analyzing experimental creation;
- evaluating experimental results and their presentation;
- assessing open problems; and
- writing technical papers using BibTeX and LaTeX.

Organization: We will meet three times a week for 2 hours. During meeting times, students will engage in discussions and in-class activities. Students should expect to spend ~2 hours per week on assigned work outside of class time.

Readings: The assigned readings, such as articles and technical papers, will be posted on the GLOW course page.

Final paper and presentation: Each research group (1-3 students) will create a written research project proposal that includes a description of the research context and the specific problem to be solved with appropriate related work citations, a description of the proposed solution or approach, and a plan for evaluating the proposed solution. Assessment will be based on a written project proposal and an in-class oral presentation of that proposal.