Project Elements and Expectations

Camille M. Moore, PhD

BIOS 6624

Spring 2026

Projects in BIOS 6624

- 5 data analysis projects

- For each project you will receive:
  - A description of the research question from the investigator
  - A dataset

- You will:
  - Translate the investigators research question into a statistically testable hypothesis
  - Perform preliminary data analyses, data management and data cleaning
  - Develop and finalize an analysis plan
  - Implement your final analyses
  - Present your final analyses in a written report and presentation
  - Work reproducibly using Git and GitHub

Project Elements

- Interim Data Analysis Plan (10%)
  - Required of all students for Projects 1-4 only
- Interim Presentation (class participation)
  - A subset of students will present their preliminary analyses and interim analysis plans for Projects 1-4 only
  - You will present once this semester
  - Counts towards class participation
- Final Report (80%)
  - Required of all students for Projects 0-4
- Final Presentation (10%)
  - Required of all students for Projects 0-4

Interim Data Analysis Plans

- **Introduction** (1-2 paragraphs)
  - Describe your understanding of the project
  - Explain the (statistical) hypotheses you will test or evaluate in the final report

- **Preliminary Methods** (< 1 page):
  - Describe your data analysis plan, including any data cleaning or management
  - You plan can change as you conduct the analysis or as you get feedback from the investigator.

- **Preliminary Analysis** (Optional/If you have gotten this far)
  - Basic descriptive statistics or a “Table 1”
  - Exploratory data analyses that illustrate any special features of the data that may need to be considered in the final analysis
    - Examples: outlier observations, skewed distributions that may require transformation

- **The data analysis plan should be no more than 1.5-2 pages double spaced, 12 point Arial font or similar.**

Interim Presentation

- **Key Elements**
  - Summary of the research question as you understand it and the hypothesis that will be tested
  - Brief summary of the data, noting special data features or problems
  - Data analysis plans

- **No more than 3 slides and no more than 5 minutes in length**

- **Please see the presentation template on Canvas for more details.**

Final Report

- **Sections**
  - Introduction
  - Methods
  - Results
  - Conclusions
  - Reproducible Research Information

- **4-6 pages (no longer than 6 pages), double spaced, with 1-inch margins and 12-point Arial or Times New Roman font.**

- **Tables and figures do not count toward the page limit but should be limited to a total of 6.**

- **Please see the Project Report Guidelines on Canvas for full details.**

Final Presentation

- **Key Elements**
  - Statement of research question(s) and statistical hypotheses tested
  - Summary of the data used for analysis
  - Brief explanation of analysis methods
  - Summary of important results as they relate to the statistical hypotheses tested
  - Summary of implications for the research question and discussion of any important limitations of the analysis

- **No more than 6 slides and no more than 10 minutes in length.**

- **Please see the presentation template on Canvas for more details.**