Poster Project Preparation Guide

Applied Statistics I – Math 260

Your Name

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1 1. What Your Poster Must Include

Use this checklist as you build your poster. You should be able to check **every** item before submitting your final version.

1.1 1.1 Research Question & Context

- ☐ A clear, concise research question is stated near the top of the poster.
- ☐ The context of the problem is briefly explained (what topic or field is this about?).
- ☐ The dataset is described, including:
  - ☐ Source of the data (where it came from).
  - ☐ Variables used in the analysis (with units when appropriate).
  - ☐ Sample size (number of observations).

1.2 1.2 Methods

- ☐ The statistical methods used are named correctly (for example, "two-sample t-test", "chi-square test of independence", "confidence interval for a proportion").
- ☐ The choice of methods is briefly justified (why this method is appropriate for the data and question).
- ☐ Any important assumptions are mentioned in plain language (for example, "we are assuming the samples are independent").

1.3 1.3 Analysis

- ☐ The poster includes **at least two** clearly labeled graphs or tables.
- ☐ Graphs use appropriate plot types for the variables (for example, bar charts for categorical variables, histograms or boxplots for quantitative variables).
- ☐ Axes, legends, and titles are readable and correctly labeled.
- ☐ Numerical summaries are reported as needed, such as:
  - ☐ Proportions or percentages (for categorical data).
  - ☐ Means, medians, or standard deviations (for quantitative data).
  - ☐ Test statistics and p-values (for hypothesis tests).
  - ☐ Confidence intervals, with confidence level stated.

1.4 1.4 Results

- ☐ Results are stated in terms of the original research question.
- ☐ Statistical language is used correctly (for example, avoid claiming "cause" unless appropriate).
- ☐ The direction and size of effects are described (for example, "Group A had a mean score 5 points higher than Group B").
- ☐ The uncertainty in the results is acknowledged (for example, via p-values or confidence intervals).

1.5 1.5 Conclusions

- ☐ A clear, concise conclusion summarizes the main finding(s).
- ☐ The conclusion is supported by the data and analysis.
- ☐ At least one limitation of the study is mentioned (for example, sample size, sampling method, measurement issues).
- ☐ At least one possible follow-up question or future direction is suggested.

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2 2. Poster Design Guidelines

Good posters are **readable, focused, visual, and organized**. Use the tips below to make your poster easier for your audience to understand.

2.1 2.1 Readability

- Use a large, readable font. As a rule of thumb:
  - Main title: around 72 pt
  - Section headings: around 36–44 pt
  - Body text: at least 20–24 pt
- Choose high-contrast colors (for example, dark text on a light background).
- Avoid long paragraphs. Short paragraphs and bullet points are easier to scan.

2.2 2.2 Focus

- Put the **research question** and **main takeaway** where they are easy to see.
- Keep text concise. Ask: "Does this sentence help the viewer understand the story?"
- Use bullets and short phrases instead of full essays.
- Highlight important numbers or phrases using bold text or callout boxes.

2.3 2.3 Visuals

- Let graphs and tables carry the story where possible.
- Each graph or table should have:
  - A clear title explaining what it shows.
  - Labeled axes (with units, if applicable).

  - A brief caption or interpretation if needed.

- Avoid decorative images or backgrounds that make text or graphs harder to read.
- Use color to emphasize important comparisons, not just for decoration.

2.4 2.4 Organization

- Arrange content in a logical flow, usually:

  1. Title and authors
  2. Research question and context
  3. Data and methods
  4. Results (graphs and tables)
  5. Conclusions and limitations

- Use headings and subheadings to guide the reader.
- Leave some white space so the poster does not feel crowded.

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3 3. Presentation Expectations

During the poster session, you will both **stand by your poster** and **explain your project** to visitors. This includes the instructor, TA, and classmates.

3.1 3.1 Basic Expectations

- Your group will give a **3–4 minute walkthrough** of your project.
- Every group member should speak at least briefly.
- You should be prepared to answer questions about:

  - Your research question and why it is interesting.
  - How your data were collected.
  - What statistical methods you used and why.
  - What your graphs show.
  - What your results mean in context.

3.2 3.2 Suggested Structure for Your Walkthrough

You might structure your spoken explanation like this:

1. **Introduction (about 1 minute)**
    - Introduce yourselves.
    - State your research question.
    - Briefly describe your data and where it came from.
2. **Methods and Analysis (about 1–2 minutes)**
    - Explain which statistical methods you used.
    - Point to your graphs/tables and describe the main patterns.
3. **Results and Conclusions (about 1 minute)**
    - State your main findings in plain language.
    - Mention any important limitations.
    - Share one possible next step or follow-up question.

3.3 3.3 Q&A Tips

- Listen carefully to each question.
- It is fine to pause for a moment to think.
- If you are unsure, you can say something like:
    - "I'm not completely sure, but based on our analysis, it seems that …"
- Try to connect your answer back to your graphs, numerical summaries, or methods.

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4 4. How You Will Be Graded (Rubric Overview)

Your poster and presentation will be graded using a rubric with a total of **60 points**. The main categories are:

Category	Points	Brief Description
Technical Content	20	Correct and appropriate use of statistical methods and analysis.

Category	Points	Brief Description
Communication	17	Clear explanation and logical organization on the poster and in speech.
Visual Appeal	12	Professional, readable, and well-designed graphs and layout.
Engagement	7	Interest, enthusiasm, and ability to explain the importance of the project.
Teamwork	4	Evidence that all members contributed and understand the project.

A more detailed rubric will be provided separately. You should use both this guide and the rubric to check your work before the poster session.

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5 5. Final Checklist Before the Poster Session

Use this as a last-minute review:

- ☐ Our research question is clear and visible.
- ☐ We have described our dataset (source, variables, sample size).
- ☐ We have correctly named and explained our statistical methods.
- ☐ Our graphs/tables are labeled, readable, and appropriate.
- ☐ Our results directly answer the research question.
- ☐ Our conclusions are supported by the data and acknowledge uncertainty.
- ☐ The poster is easy to read from a few feet away.
- ☐ Each group member knows what they will say during the walkthrough.
- ☐ We have practiced explaining at least one graph each.
- ☐ We have looked at the rubric and believe we meet the expectations.

Good luck, and have fun sharing what you discovered with your data!