**Math 58B: Rubric**

**The Islands Activity[[1]](#footnote-1)**



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| The information below is to provide a rubric for the overall Islands research project. |

You will now begin to work in your project groups of approximately 3 people. If you have a group already, great, let me know! If you do not have a group, please let me know that you’d like me to put you in a group. You must complete this assignment with the same people who will be in your final Island project group.

Reminder for logging on: Go to the Islands (<https://theislands.umn.edu/login.php>). If you have forgotten your password, click on ‘Need to set or reset your password?’, enter your 5C email address (most likely of the form aaaa20xx@mymail.pomona.edu), and the Islands will resend your password to you. Let me know if you cannot access the Islands.

Note: The Visitor Center on the Islands (click on the square just south of Arcadia) is a great source for information about the Islands.

Don’t forget about the **Academy**. What is there? Are there any studies that seem interesting? Is the response variable quantitative or categorical? How many explanatory variables are there? Are they each quantitative or categorical? How many observational units total were collected in the study?

**FINAL REPORTS / OUTCOMES**

3/28/23: **Pilot Study** -- research question, methods section, preliminary data

4/4/23: **Power Analysis** – calculation of sample size from the Pilot data

4/18/23: **Preliminary Data Analysis** -- data summaries / visualizations, first draft of analysis, including regression

5/2/23: **Complete Draft** – including multiple regression

5/4 + 12/23: **Presentation** -- 2 slides, 5 min presentation (either during our final time or during reading days)

5/12/23: **Final** (edited) **Project**

**EVALUATION OF FINAL ISLAND RESEARCH PROJECT**

**Grading Scheme for the research project**

* **40% Final Project**
* **30% Interim assignments / complete / detailed**
* **10% Presentation**
* **15% Individual reflection**
* **5% Group assessment**

**Rubric for Grading the Final Project**

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| **Introduction**1. Brief background. Has an explanation been given for why the research was done? Why is the work important? What is its relevance? Does the background and significance have a logical organization? Does it move from the general to the specific? (0-4)
2. Objective or research question. Is the brief description of the hypothesis / goals and findings of the paper clearly stated for the reader. Is the final paragraph of the introduction a brief description of the hypothesis/goals of the paper? (0-4)
3. Will the research results be useful for the Islanders? Will the treatment do harm? (0-2)
 | **10** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| **Methods**1. Study design: is there enough information for someone else to replicate the study? (0-4)
2. Sampling method and eligibility criteria: is it well described and motivated? (0-4)
3. Variables: are the explanatory and response variables described? What are the levels and definitions (e.g., units) of the variables? Were any of the variables transformed or wrangled? (0-1)
4. Sample size justification: Is the power analysis explained in sufficient detail so that the sample size is justified? Are any caveats (e.g., “funding”) well described? (0-6)
5. Statistical methods: Are the methods motivated by the research question and the background analysis? Are the methods appropriate and logical? (0-5)
 | **20** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| **Results**1. Are the baseline variables summarized, explained, graphically depicted? Are the demographic variables balanced across the treatment groups (as would be expected for a randomized experiment)? (0-5)
2. Is the result of interest explained, summarized, graphically depicted? What do the results say about the research question of interest? Are the results appropriate, logical, and accurate? (0-10)
3. Is each model / summary output completely described (no naked tables anywhere)? (0-3)
4. Is each figure completely described (no naked figures anywhere)? (0-3)
5. Is there evidence of assessment of the technical conditions throughout the paper? (0-4)
 | **25** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| **Discussion/Conclusions**1. Restatement of objectives of study (questions) and the results of the study (results) (0-2).
2. Does the author clearly state whether the results answer the question (support or disprove the hypothesis)? (0-3)
3. Were specific data / analyses / figures cited from the results to support each research question interpretation?  Does the author clearly articulate the basis for supporting or rejecting each hypothesis as well state limitations of results? (0-3)
4. Are there ideas for future work based on the results and the experimental design of the study at hand? (0-2)
 | **10** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| **Limitations**1. Are there specific limitations described with respect to the sampling and the ability to infer to a larger population? Despite the limitations, does it make sense to infer back to a larger population? (0-4)
2. Are there specific limitations described with respect to the randomization and the ability to infer a causal relationship? Despite the limitations, does it make sense to suggest a causal relationship across the variables? (0-4)
3. Are there other limitations in the study (e.g., sample size, variables studied, etc.) which keep the authors from knowing the answers to the research claims they set out to study? (0-2)
 | **10** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| **Coverage / Clarity**1. Descriptive and appropriate title (0-1)
2. Names of all group members (0-1)
3. Dataset is complete, available, tidy (rows are observations, columns are variables) (0-2)
4. Is the presentation organized, with labeled sections, and a generally well-written paper? (0-4)
5. Has the paper been edited without excessive grammar or spelling errors? (0-2)
6. Are the tables and figures well used, with labeled axes and figures with captions? (0-5)
7. Is the work completely reproducible such that the instructor is able to run the .Rmd file with no additional edits? (0-4)
8. Are both an Rmd and a pdf version of the assignment turned in? (0-2)
9. Is there no code in the compiled pdf of the assignment, but the code to analyze the data is clear in the Rmd version of the assignment? (0-4)
 | **25** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| **Total Points** | **100** |  |  |

1. Thanks to Laura Le and Ann Brearley at UMN for sharing resources. Much of the assignment is taken directly from their excellent resources. [↑](#footnote-ref-1)