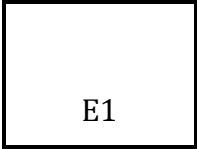


Name: \_\_\_\_\_

# Statistics Project Rubric



## Introduction

|                                      | <b>Level 4</b>   | <b>Level 3</b>   | <b>Level 2</b>   | <b>Level 1</b>  | <b>Level R</b>  |
|--------------------------------------|--|--|--|---|---|
| <b>Introduction</b>                  | Clear, concise. Worthwhile. Intent of report is clearly presented.   | Fairly clear intention. Tone appropriate to subject. Relatively engaging.  | Not engaging, but present. Limited presentation of intent.   | Too short. Limited presentation of intent.  | Absent.   |
| <b>Topic Question and Hypothesis</b> | An outstanding and unique main topic question with many sub-questions posed that relate well to the topic. A hypothesis is stated with much thought in regards to main topic question. | A good/suitable topic question is developed. Some sub-questions are posed. A hypothesis is stated with some thought in regards to main topic question. | A topic question is developed. Few sub-questions that need to be answered. Little thought put into hypothesis. | A weak topic question is developed. Poor or too few sub-questions that need to be answered. Little thought put into hypothesis. | No topic question developed. No sub-questions developed. No hypothesis is stated. |

### Calculations & Analysis

|  | <b>Level 4</b>  | <b>Level 3</b>   | <b>Level 2</b>  | <b>Level 1</b>   | <b>Level R</b> |
|--|---|--|---|--|----------------|
| <b>Measures of Central Tendency</b>                  | Mean, median and mode are all calculated in Excel file. At least two measures of central tendency are discussed with an excellent explanation & purpose in written report.                    | Mean, median and mode are all calculated in Excel file. At least two measures of central tendency are discussed with some purpose in written report.               | At least one measure of central tendency is calculated, but not really connected to main topic question.                        | Very poor use of central tendency <b>or</b> incorrectly calculated.      | Missing.       |
| <b>Measures of Spread</b>                            | At least four measures of spread (deviation, standard deviation, variance, IQR, percentile, z-score) are calculated and used for a purpose at least once each and are interpreted well.       | At least two measures of spread (deviation, standard deviation, variance, IQR, percentile, z-score) are used for a purpose at least once each and are interpreted. | A measure of spread (deviation, standard deviation, variance, IQR, percentile, z-score) is used, but not interpreted very well. | Very poor use of measures of spread <b>or</b> incorrectly calculated.    | Missing.       |
| <b>Correlation Coefficient, r</b>                    | At least one line of best fit is used and visually classified and explained well. Correlation coefficient is calculated at least once and used to analytically classify the line of best fit. | At least one line of best fit is used and visually classified. Correlation coefficient is used at least once and is analytically classified.                       | Line of best fit and/or correlation are used, but not explained well.   | Major problems <b>or</b> incorrectly calculated <b>or</b> scatter plots. | Missing.       |
| <b>Regression, Interpolation &amp; Extrapolation</b> | At least one interpolation and/or extrapolation is used with least-squares regression equation for a purpose. Numbers explained well and justified.   | An interpolation or extrapolation is used with least-squares regression equation.  | An interpolation and/or extrapolation is used with least-squares regression equation, but is lacking purpose.                   | Incomplete <b>or</b> calculated incorrectly.                             | Missing.       |
| <b>Variables</b>                                     | Variables are very well described as discrete, continuous or categorical; independent or dependent. Any extraneous variables are identified and explained well.                               | Variables are described as discrete, continuous or categorical; independent or dependent with little justification. Any extraneous variables are identified.       | Variables are described as discrete, continuous or categorical; independent or dependent.                                       | Variables are described incorrectly.                                     | Missing.       |
| <b>Cause and Effect</b>                              | At least one variable relationship factor is identified and explained well.   | At least one variable relationship factor is identified and explained.   | At least one variable relationship factor is identified.  | Cause and Effect are discussed, but incorrectly.                         | Missing.       |
| <b>Graphs</b>  | Multiple scatter plots and at least one other graph used. Well labeled. Appropriate choices.  | Multiple scatter plots and at least one other graph used.  | Few graphs included. Some graphs that would be helpful are omitted.   | Many more needed.  | Missing.       |

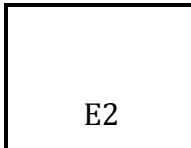
## Overall Analysis

|  | <b>Level 4</b>   | <b>Level 3</b>  | <b>Level 2</b>  | <b>Level 1</b>   | <b>Level R</b>                       |
|--|--|---|---|--|--------------------------------------|
| <b>Report Structure</b>                | Title page and table of contents. Titles and subtitles on pages. Pages in order, numbered. Very neat and professional. Excellent formatting. | Title page and table of contents. Pages in order and neatly presented. Titles on pages. Some basic formatting.                                      | Elements such as title page, table of contents, or subtitles missing.                     | Little thought appears to have gone into organization and presentation. Appears hastily completed. | Missing many structure elements.     |
| <b>Works Cited &amp; References</b>    | APA format works cited present at the end of report. All graphs, pictures, and/or quotes are correctly cited throughout report.              | APA format works cited present at the end of report, with some details missing. Some graphs, pictures, and/or quotes are correctly cited in report. | APA format works cited present at the end of report, with some details missing.           | Many errors.   | Completely missing.                  |
| <b>Mathematical Writing</b>            | Always or almost always uses correct terminology and notation. Uses technology extremely well.   | Generally uses correct terminology and notation. Uses technology well.  | Sometimes uses correct terminology and notation.  | Rarely uses correct terminology and notation.  | Unreadable,                          |
| <b>Editing, Spelling &amp; Grammar</b> | Extremely well edited. Vivid vocabulary. Near perfect spelling and grammar.  | Student has edited the report, ensuring that sentences are forceful and clear. Accurate word choice. Few spelling or grammar mistakes.              | Incomplete editing is evident. Ordinary word choices. Many spelling and grammar mistakes. | Faulty editing shows in flawed sequence of ideas. Limited vocabulary.                              | Very inaccurate spelling or grammar. |
| <b>Command of Topic</b>                | Report demonstrates both familiarity with relevant issues and independent thought.   | Subject fairly well researched with some independent thought.   | Report misses some element of assigned topic and/or is too general.                       | Poorly researched. Critical issues associated with topic not presented.                            | No command of topic.                 |
| <b>Understanding</b>                   | Comprehensive understanding of concepts and key ideas.   | Firm understanding of some concepts and key ideas.  | Basic understanding of concepts and key ideas with restricted depth.                      | Little understanding of basic concepts and key ideas.  | No understanding of statistics.      |

### Conclusion

|                               | <b>Level 4</b>  | <b>Level 3</b>  | <b>Level 2</b>  | <b>Level 1</b>   | <b>Level R</b>       |
|-------------------------------|---|---|---|--|----------------------|
| <b>Conclusion Structure</b>   | Concise. Conclusions were well developed throughout the body of the report.     | Conclusions were developed throughout the body of the report. | More conclusions necessary. Some conclusions not supported by report. | Few conclusions. Those present are weak and do not follow from the report. | Missing.             |
| <b>Drawing of Conclusions</b> | Selected and applied relevant criteria to justify and substantiate conclusions. | Selected and applied criteria to justify conclusions.         | Provided some justification for conclusions.                          | Provided little, if any, justification for conclusions.                    | No conclusions made. |
| <b>Biases</b>                 | At least one type of bias is discussed and justified.                           | At least one type of bias is discussed.                       | A type of bias is included, but incorrectly explained.                | A type of bias is included, but not discussed or explained.                | Missing.             |

## Statistics Project Critique Rubric



### Constructive Feedback on another Student’s Project

|                 | <b>Level 4</b>                                      | <b>Level 3</b>                           | <b>Level 2</b>   | <b>Level 1</b>   | <b>Level R</b>                          |
|-----------------|---|--|--|--|---|
| <b>Feedback</b> | Feedback is well thought out throughout the report. | Feedback is given throughout the report. | Feedback is given in the report. Not all feedback is supported or justified. | Limited feedback is given in the report. Feedback is not supported or justified or useful. | Feedback missing throughout the report. |