

Rubric: *Note that you will need to adapt this for your non lab research*

Style (15 points)

- *Have smooth and logical transitions in topics*
- *Make every word, phrase, and sentence accurate and concise*
- *Make every word serve a purpose and avoid redundancy*
- *Refrain from using idioms*
- *Proofread the paper as a very critical reviewer*
- *Questions to ask:*
 - *Is the report in active voice?*
 - *Are there any personal pronouns? If so, change it*
 - *Are all figures referenced before appearing in the report?*
 - *Are all figures, tables, graphs, and equations formatted properly?*
 - *Do all images load correctly?*
- *Grammar Guidelines: <https://confluence.cornell.edu/display/AGUACLARA/Grammar+Guidelines+for+Reports>*
- *Formatting: <https://confluence.cornell.edu/display/AGUACLARA/Style+Guide+for+Figures%2C+Tables%2C+and+Equations>*

Rating of 15 (Strong):

The writer demonstrates control of standard writing conventions and uses them effectively to enhance readability. Errors tend to be so few and minor the reader can easily skim right over them.

- Paragraph division is sound and reinforces the organizational structure.
- Grammar, usage, and spelling are correct and contribute to clarity and style.
- Punctuation is smooth and guides the reader through the text.
- Only light editing would be required to polish the text for publication.
- Graphic devices, when used, are clear, helpful, visually appealing and supportive of the text.
- Active voice applied throughout and no use of personal pronouns.

Rating of 10 (Developing):

The writer shows reasonable control over a limited range of standard writing conventions. Errors are numerous or serious enough to be somewhat distracting, but the writer handles some conventions well.

- Paragraph divisions are attempted but paragraphs sometimes run together or begin in the wrong places.
- Problems with grammar, usage, and spelling are not serious enough to distort meaning.
- Terminal (end-of-sentence) punctuation is almost always correct; internal punctuation (commas, apostrophes, semicolons) may be incorrect or missing.
- Moderate editing would be required to polish the text for publication.
- Graphic devices, when used, are sometimes clear, helpful, visually appealing and supportive of the text.
- Active voice applied through most of the report.

- Some use of personal pronouns.

Rating of 5 (Beginning):

Errors in spelling, punctuation, usage and grammar, capitalization, and/or paragraphing repeatedly distract the reader and make the text difficult to read. The reader must read once to decode, then again for meaning.

- Paragraph divisions are missing, irregular, or so frequent (e.g. every sentence) that it does not relate to the organization of the text.
- Errors in grammar, usage, and spelling are very noticeable and may affect meaning.
- Punctuation is often missing or incorrect.
- Extensive editing would be required to polish the text for publication.
- Graphic devices, when used, are not clear, helpful, visually appealing or supportive of the text.
- Passive voice is used widely in the report.
- Wide use of personal pronouns.

Abstract (5 points)

- *Maximum of 100 words*
- *Summarize the goals for the semester*
- *State the overall purpose of the experiment: the problem you are studying, experimental methods and materials used, main results, and main conclusions*
- *For the first report, simply state your expectations for the semester*

Rating of 5 (Strong):

- Presents a clear and concise lead-in to the remainder of the report
- Appropriate background information (including references) presented in organized fashion
- Problem is well developed. Hypotheses, if appropriate, are clearly stated

Rating of 3 (Developing):

- Some background information is given but there is no real organization or detail to its presentation
- Too much information is given, much of which is not related to the problem at hand
- Have idea of what the problem is and its importance but not exactly clear
- Outline for remaining report is sketchy or missing

Rating of 1 (Beginning):

- No or very limited background information
- Very hard to grasp what the problem is and why the research is important
- No outline for remaining report is given. No idea what to expect in the remainder of the report

Introduction (5 points)

- *State your theory and hypothesis*
- *Explain your experiment / process and why you performed this experiment*
- *Explain why your work is important (Explain the context of your team's work in AguaClara and the world)*

Rating of 5 (Strong):

- Presents a clear and concise lead-in to the remainder of the report
- Appropriate background information (including references) presented in organized fashion

- Problem is well developed. Hypotheses, if appropriate, are clearly stated
- Outline of the remaining report present and easily understandable

Rating of 3 (Developing):

- Some background information is given but there is no real organization or detail to its presentation
- Too much information is given, much of which is not related to the problem at hand
- Have idea of what the problem is and its importance but not exactly clear
- Outline for remaining report is sketchy or missing

Rating of 1 (Beginning):

- No or very limited background information
- Very hard to grasp what the problem is and why the research is important
- No outline for remaining report is given. No idea what to expect in the remainder of the report

Literature Review (5 points)

- *Review relevant literature outside of the AguaClara program and present*
- *If similar experiments have been performed before, explain their importance to your research. Clearly state and explain any ideas that are borrowed from these cases.*
- *Cite your sources in APA format using Zotero*

Rating of 5 (Strong):

- Relevant literature outside of the AguaClara program is reviewed and presented in an organized fashion
- If similar experiments have been performed before, their importance to the research is explained clearly
- All sources are cited in APA format using Zotero

Rating of 3 (Developing):

- Some relevant literature outside of the AguaClara program is reviewed but there is no real organization or detail to its presentation
- Too much information is given, much of which is not related to the problem at hand
- If similar experiments have been performed before, their importance to the research is not explained clearly
- Few sources are cited in APA format using Zotero

Rating of 1 (Beginning):

- No relevant literature outside of the AguaClara program
- Very hard to grasp why the referenced research is important
- No sources cited in APA format using Zotero

Previous Work (5 points)

- *Previous Work by AguaClara teams*
- *Review relevant past teams' reports*
- *State the importance of their findings and processes to your research*
- *State the similar purpose, apparatus, or perform a similar experiment*
- *Cite your sources in APA format using Zotero*

Rating of 5 (Strong):

- Relevant Previous Work by AguaClara teams is reviewed and presented in an organized fashion

- Past teams' work, their purpose, apparatus, and experiments are explained clearly
- All sources are cited in APA format using Zotero

Rating of 3 (Developing):

- Some relevant Previous Work by AguaClara teams is reviewed but there is no real organization or detail to its presentation
- Too much information is given, much of which is not related to the problem at hand
- If similar experiments have been performed before, their importance to the research is not explained clearly
- Few sources are cited in APA format using Zotero

Rating of 1 (Beginning):

- No relevant Previous Work from the AguaClara program
- Very hard to grasp why the referenced research is important
- No sources cited in APA format using Zotero

Methods (20 points)

- *Experimental Apparatus: Design, Schematic, Materials, Calculations, Construction Procedure*
 - *Clearly explain your apparatus and experiments. Provide enough detail for future team members and people unconnected to AguaClara to reproduce your experiments and apparatus*
 - *Define all of the design parameters*
 - *Show sample calculations*
 - *Use appropriate figures that help explain your apparatus*
- *ProCoDA Methods: States, Variables, Revisions*
 - *Include relevant information from your ProCoDA code*
- *Procedure*
 - *Justify your decisions based on engineering analysis*
 - *Make sure you are confident in your justification. If you are not, you should review your justification and try to understand the problem better in order to develop an improved justification*

Rating of 20 (Strong):

- Presents a clear, concise description of the data and statistical methods used in the report
- Important aspects of experiment and data set are adequately explained
- Clear description of experimental design without too much elaboration
- Summary tables (if presented) are understandable and self-contained

Rating of 10 (Developing):

- Some issues related to the design are omitted or not well explained
- Not exactly clear what the analytic methods are or spends too much time discussing the details behind the methods
- Summary tables (if presented) are hard to understand or somewhat inappropriate

Rating of 5 (Beginning):

- Far too brief or vague in the description of the experiment and/or analytic methods
- No emphasis put on the description of the data set and/or key aspects associated with the data. May be no apparent link between experiment and analytic method

Results (15 points)

- *Discuss your results in a way that is easy to understand.*

Rating of 15 (Strong):

- Clear, concise description of what was found and how it was found
- Results are presented in an easy to understand way with only the necessary pieces of information presented.
- Tables and figures are easy to understand and self-contained

Rating of 10 (Developing):

- Presentation of results is choppy making it hard to follow

Rating of 5 (Beginning):

- Very little description of what was found or far too much extraneous information presented.
- Summary tables and/or results are difficult to read and/or understand
- Presentation of results is incomplete and there is no organization

Analysis (15 points)

- *Interpret your results and explain the insights that come from them*
- *Explain how this knowledge influences your future work*

Rating of 15 (Strong):

- Clear, concise description of what was found and how it was found
- Findings are presented in a concise and sequential way with only the necessary pieces of information presented (additional information can go in an appendix)
- Results are interpreted and linked back to the problem at hand
- Tables and figures are easy to understand and self-contained

Rating of 10 (Developing):

- Description of the analysis is mostly clear but is too brief or has extraneous information
- Little interpretation of results is done

Rating of 5 (Beginning):

- Very little description of what was found or far too much extraneous information presented.
- No interpretation of the results relative to the problem is given

Conclusions (5 points)

- *Explain what you have learned*
- *Explain why what you discovered matters to AguaClara*
- *Make sure that you defend your conclusions (this is conclusions, not opinions!)*

Rating of 5 (Strong):

- Section satisfactorily rehashes the problems and methods used to solve them
- The results are adequately summarized
- Interpretation and impact of results on the problem are clearly explained
- Recommendations for future experiments/studies are understandable and well thought out

Rating of 3 (Developing):

- Links between the results and the problem leave too much to the reader
- Section is either too brief or too wordy. May or may not be well organized
- Very little thought as to the impact of these results is describe

Rating of 1 (Beginning):

- Illogical explanation of the results and/or how they impact the problem

Future Work (5 points)

- *Explain what should be accomplished and which direction this project should be taken next.*
- *Explain how AguaClara can apply what you discovered for future projects.*
- *Explain why the research in this area should continue or why it should end.*

Rating of 5 (Strong):

- Clear and concise description of what the team hopes to accomplish and how the team will advance the project
- Illustrates how AguaClara can apply the team's research to future projects
- Explains why research in this area should continue or why it should end

Rating of 3 (Developing):

- A brief statement of what the team hopes to accomplish, but lacks a detailed plan for future work
- Unclear explanation of how AguaClara can apply the team's research to future projects
- Does not explain why research in this area should continue or why it should end

Rating of 1 (Beginning):

- Shows no direction or plan for the team to advance the project
- No connection between team's research to AguaClara's future projects

Manual (5 points)

- *Explain the purpose and hypothesis of experiments.*
- *Provides a materials list that details the materials needed to build and operate the apparatus.*
- *Provides a detailed diagram of the apparatus setup.*
- *Clearly details steps of the procedure such that future teams can replicate the experiments.*

Rating of 5 (Strong):

- Clear and concise description of the purpose and hypothesis of experiments
- Provides an accurate materials list
- Provides an easy to understand diagram of the apparatus
- Clear and concise description of steps in procedure

Rating of 3 (Developing):

- An unclear description of the purpose and hypothesis of experiments
- Inaccurate materials list
- Unclear diagram of the apparatus
- Ambiguous description of steps in procedure

Rating of 1 (Beginning):

- Provides no insight into the purpose or hypothesis of the experiments
- Provides no materials list
- Provides no diagrams to help recreate the apparatus
- Provides no procedure

REPORT NUMBER: 1

DATE:

Component	RA Comments	Style comments (Beginning, Developing, Strong)	Research Advisor Grades
Style			/15
Abstract			/5
Introduction			/5
Literature Review			/5
Previous Work			/5
Methods			/20
Results			/15

Analysis			/15
Conclusions			/5
Future Work			/5
Manual			/5
TOTAL			/100

0% : This is the grade you have for this individual report. This is based on the benchmark your team should have met by this submission.

0% : This is the grade if you were to submit this as your final report. See comments above and in the report. A big goal is to begin to describe the coding that will be needed for the app and to describe how a user will interact with the app (the first user case).

REPORT NUMBER: 2

DATE:

Component	RA Comments	Style comments (Beginning, Developing, Strong)	Research Advisor Grades
Style			/15
Abstract			/5
Introduction			/5
Literature Review			/5
Previous Work			/5
Methods			/20
Results			/15
Analysis			/15
Conclusions			/5
Future Work			/5
Manual			/5
TOTAL			/100

0% : This is the grade you have for this individual report. This is based on the benchmark your team should have met by this submission.

0% : This is the grade if you were to submit this as your final report. See comments above and in the report. A big goal is to begin to describe the coding that will be needed for the app and to describe how a user will interact with the app (the first user case).

REPORT NUMBER: 3

DATE:

Component	RA Comments	Style comments (Beginning, Developing, Strong)	Research Advisor Grades
Style			/15
Abstract			/5
Introduction			/5
Literature Review			/5
Previous Work			/5
Methods			/20
Results			/15
Analysis			/15
Conclusions			/5
Future Work			/5
Manual			/5
TOTAL			/100

0% : This is the grade you have for this individual report. This is based on the benchmark your team should have met by this submission.

0% : This is the grade if you were to submit this as your final report. See comments above and in the report. A big goal is to begin to describe the coding that will be needed for the app and to describe how a user will interact with the app (the first user case).

FINAL REPORT DRAFT**DATE:**

Component	RA Comments	Style comments (Beginning, Developing, Strong)	Research Advisor Grades
Style			/15
Abstract			/5
Introduction			/5
Literature Review			/5
Previous Work			/5
Methods			/20
Results			/15
Analysis			/15
Conclusions			/5
Future Work			/5
Manual			/5
TOTAL			/100

0% : This is the grade you have for this individual report. This is based on the benchmark your team should have met by this submission.

0% : This is the grade if you were to submit this as your final report. See comments above and in the report. A big goal is to begin to describe the coding that will be needed for the app and to describe how a user will interact with the app (the first user case).

FINAL REPORT

DATE:

Component	RA Comments	Style comments (Beginning, Developing, Strong)	Research Advisor Grades
Style			/15
Abstract			/5
Introduction			/5
Literature Review			/5
Previous Work			/5
Methods			/20
Results			/15
Analysis			/15
Conclusions			/5
Future Work			/5
Manual			/5
TOTAL			/100

0% : This is the grade you have for this individual report. This is based on the benchmark your team should have met by this submission.

0% : This is the grade if you were to submit this as your final report. See comments above and in the report. A big goal is to begin to describe the coding that will be needed for the app and to describe how a user will interact with the app (the first user case).