

\*Rubric based in part on Inquiry and Analysis, Written Communication, and Critical Thinking VALUE Rubrics presented in Rhodes, T. L. (ed.). (2010). *Assessing outcomes and improving achievement: Tips and tools for using rubrics*. Washington, D.C.: Association of American Colleges and Universities. Also available online at <http://www.aacu.org/value/>

Student Learning Outcomes	Exceeds Standard	Meets Standard	Approaches Standard	Needs Attention	Lacks Attention	Score
	A	B	C	D	F	
<b>1. Students will create an appropriate cover/title page.</b>	The cover page contains <b>all</b> of the following: <input type="checkbox"/> Separate standalone page with no spelling errors. <input type="checkbox"/> Name of Students <input type="checkbox"/> Project title <input type="checkbox"/> Date <input type="checkbox"/> Technical aspects of paper: Page number 1; Double spaced; and Times New Roman 12 point font, title [1.5 pts] <input type="checkbox"/>	The cover page contains <b>four</b> of the following: <input type="checkbox"/> Separate standalone page with no spelling errors. <input type="checkbox"/> Name of Student <input type="checkbox"/> Project title <input type="checkbox"/> Date <input type="checkbox"/> Technical aspects: No page number; Double spaced; and Times New Roman 12 point font, title [1.0 pts] <input type="checkbox"/>	The cover page contains <b>three</b> of the following: <input type="checkbox"/> Separate standalone page with no spelling errors. <input type="checkbox"/> Name of Student <input type="checkbox"/> Project title <input type="checkbox"/> Date <input type="checkbox"/> Technical aspects: No page number; Double spaced; and Times New Roman 12 point font, title [.75 pts] <input type="checkbox"/>	The cover page contains <b>two</b> of the following: <input type="checkbox"/> Separate standalone page with no spelling errors. <input type="checkbox"/> Name of Student <input type="checkbox"/> Project title <input type="checkbox"/> Date <input type="checkbox"/> Technical aspects: No page number; Double spaced; and Times New Roman 12 point font, title [.5 pts] <input type="checkbox"/>	The cover page contains <b>none</b> of the following: <input type="checkbox"/> Separate standalone page with no spelling errors. <input type="checkbox"/> Name of Student <input type="checkbox"/> Project title <input type="checkbox"/> Date <input type="checkbox"/> Technical aspects: No page number; Double spaced; and Times New Roman 12 point font, title [0 pts] <input type="checkbox"/>	
<b>2. Students will create a table of contents for the report.</b>	The table of contents contains <b>all</b> of the following: <input type="checkbox"/> Table of Contents title. <input type="checkbox"/> Page Number 2. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [1.5 pts] <input type="checkbox"/>	The table of contents contains <b>three</b> of the following: <input type="checkbox"/> Table of Contents title. <input type="checkbox"/> Page Number 2. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [1.0 pts] <input type="checkbox"/>	The table of contents contains <b>two</b> of the following: <input type="checkbox"/> Table of Contents title. <input type="checkbox"/> Page Number 2. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [.75 pts] <input type="checkbox"/>	The table of contents contains <b>one</b> of the following: <input type="checkbox"/> Table of Contents title. <input type="checkbox"/> Page Number 2. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [.5 pts] <input type="checkbox"/>	The table of contents contains <b>none</b> of the following: <input type="checkbox"/> Table of Contents title. <input type="checkbox"/> Page Number 2. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [0 pts] <input type="checkbox"/>	
<b>3. Students will create a list of figures and tables</b>	The table of contents contains <b>all</b> of the following: <input type="checkbox"/> Table of figures and tables title. <input type="checkbox"/> Page Number. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [1.5 pts] <input type="checkbox"/>	The table of contents contains <b>three</b> of the following: <input type="checkbox"/> Table of figures and tables title. <input type="checkbox"/> Page Number. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [1.0 pts] <input type="checkbox"/>	The table of contents contains <b>two</b> of the following: <input type="checkbox"/> Table of figures and tables title. <input type="checkbox"/> Page Number. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [.75 pts] <input type="checkbox"/>	The table of contents contains <b>one</b> of the following: <input type="checkbox"/> Table of figures and tables title. <input type="checkbox"/> Page Number. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [.5 pts] <input type="checkbox"/>	The table of contents contains <b>none</b> of the following: Table of figures and tables title of Contents title. <input type="checkbox"/> Page Number. <input type="checkbox"/> Page numbers for report match in the document. <input type="checkbox"/> Double –spaced and correct alignment. [0 pts] <input type="checkbox"/>	
<b>4. Students will be able to write an ABSTRACT</b>	Overview of the document appears to be <b>very well summarized</b> , and gives the reader a <b>very clear picture</b> of the topic. [10 pts] <input type="checkbox"/>	Overview of the document appears to be <b>well summarized</b> , and gives the reader a <b>clear picture</b> of the topic. [8 pts] <input type="checkbox"/>	Overview of the document is <b>noted, but not well summarized</b> , and gives the reader an <b>imprecise picture</b> of the topic. [6 pts] <input type="checkbox"/>	Overview of the document is <b>given cursory or superficial thought</b> , and gives the reader a <b>confusing picture</b> of the topic. [4 pts] <input type="checkbox"/>	Overview of the document is <b>absent</b> , and gives the reader <b>no insight</b> into the topic. [0 pts] <input type="checkbox"/>	
<b>5. Students will be able to show competence in the technical aspects (grammar &amp; style) of writing for abstract.</b>	The paper is <b>highly organized</b> with paragraphs that are <b>well written, flow logically</b> and are <b>without</b> spelling, grammar, punctuation errors. [1.5 pts] <input type="checkbox"/>	The paper is <b>organized</b> with paragraphs that <b>flow logically</b> , and contain <b>few (&lt;3) errors</b> in spelling, grammar or punctuation. [1.0 pts] <input type="checkbox"/>	The paper is <b>organized</b> , but paragraphs do not flow logically <b>and/or</b> contain <b>many errors (4- 10)</b> in spelling, grammar or punctuation. [.75 pts] <input type="checkbox"/>	The paper is <b>disorganized</b> with paragraphs that are <b>weakly developed</b> and/or <b>significant errors (&gt;10)</b> in spelling, grammar or punctuation. [.5 pts] <input type="checkbox"/>	The paper is <b>disorganized</b> with paragraphs that are <b>extremely underdeveloped</b> , and/or <b>significant errors (&gt;10)</b> in spelling, grammar or punctuation. [0 pts] <input type="checkbox"/>	

<p><b>6. Students will be able to clearly write an appropriate INTRODUCTION to the MAIN REPORT.</b></p>	<p>The introduction contains <b>all</b> of the following:  <input type="checkbox"/> A brief overview and context is provided for the reader.  <input type="checkbox"/> Background information provided and referenced  <input type="checkbox"/> A convincing argument is provided as to why this project is necessary  <input type="checkbox"/> The <b>purpose</b> is clear and controlling feature of the paper.  <input type="checkbox"/> [15.0 pts]□</p>	<p>The introduction contains <b>three</b> of the following:  <input type="checkbox"/> A brief overview and context is provided for the reader.  <input type="checkbox"/> Background information provided and referenced  <input type="checkbox"/> A convincing argument is provided as to why this project is necessary  <input type="checkbox"/> The <b>purpose</b> is clear and controlling feature of the paper.  <input type="checkbox"/> [10.0 pts]□</p>	<p>The introduction contains <b>two</b> of the following:  <input type="checkbox"/> A brief overview and context is provided for the reader.  <input type="checkbox"/> Background information provided and referenced  <input type="checkbox"/> A convincing argument is provided as to why this project is necessary  <input type="checkbox"/> The <b>purpose</b> is clear and controlling feature of the paper.  <input type="checkbox"/> [7.5 pts]□</p>	<p>The introduction contains <b>one</b> of the following:  <input type="checkbox"/> A brief overview and context is provided for the reader.  <input type="checkbox"/> Background information provided and referenced  <input type="checkbox"/> A convincing argument is provided as to why this project is necessary  <input type="checkbox"/> The <b>purpose</b> is clear and controlling feature of the paper.  <input type="checkbox"/> [5 pts]□</p>	<p>The introduction contains <b>none</b> of the following:  <input type="checkbox"/> A brief overview and context is provided for the reader.  <input type="checkbox"/> Background information provided and referenced  <input type="checkbox"/> A convincing argument is provided as to why this project is necessary  <input type="checkbox"/> The <b>purpose</b> is clear and controlling feature of the paper.  <input type="checkbox"/> [0 pts]□</p>	
<p><b>7. Students will be able to clearly write an appropriate LITERATURE REVIEW. This may be contained in the introduction, if appropriate</b></p>	<p>The literature review contains <b>all</b> of the following:  <input type="checkbox"/> <b>Cite</b> credible sources.  <input type="checkbox"/> <b>Define</b> major concepts clearly.  <input type="checkbox"/> <b>Summarize</b> major concepts.  <input type="checkbox"/> <b>Make connections</b> across articles, authors, and concepts.  <input type="checkbox"/> [5 pts]□</p>	<p>The literature review contains <b>three</b> of the following:  <input type="checkbox"/> <b>Cite</b> credible sources.  <input type="checkbox"/> <b>Define</b> major concepts clearly.  <input type="checkbox"/> <b>Summarize</b> major concepts.  <input type="checkbox"/> <b>Make connections</b> across articles, authors, and concepts.  <input type="checkbox"/> [4 pts]□</p>	<p>The literature review contains <b>two</b> of the following:  <input type="checkbox"/> <b>Cite</b> credible sources.  <input type="checkbox"/> <b>Define</b> major concepts clearly.  <input type="checkbox"/> <b>Summarize</b> major concepts.  <input type="checkbox"/> <b>Make connections</b> across articles, authors, and concepts.  <input type="checkbox"/> [3.0 pts]□</p>	<p>The literature review contains <b>one</b> of the following:  <input type="checkbox"/> <b>Cite</b> credible sources.  <input type="checkbox"/> <b>Define</b> major concepts clearly.  <input type="checkbox"/> <b>Summarize</b> major concepts.  <input type="checkbox"/> <b>Make connections</b> across articles, authors, and concepts.  <input type="checkbox"/> [2.0 pts]□</p>	<p>The literature review contains <b>none</b> of the following:  <input type="checkbox"/> <b>Cite</b> credible sources.  <input type="checkbox"/> <b>Define</b> major concepts clearly.  <input type="checkbox"/> <b>Summarize</b> major concepts.  <input type="checkbox"/> <b>Make connections</b> across articles, authors, and concepts.  <input type="checkbox"/> [0 pts]□</p>	
<p><b>8. Students will be able to clearly write an appropriate METHODS section.</b></p>	<p>The introduction contains <b>all</b> of the following:  <input type="checkbox"/> Complete description of how project was completed in terms that a peer could complete it  <input type="checkbox"/> Description of design and fabrication  <input type="checkbox"/> Description of how design was analyzed (e.g., finite element, mathematical, etc.).  <input type="checkbox"/> Description of data collection and analysis.  <input type="checkbox"/> [10 pts]□</p>	<p>The introduction contains <b>three</b> of the following:  <input type="checkbox"/> Complete description of how project was completed in terms that a peer could complete it  <input type="checkbox"/> Description of design and fabrication  <input type="checkbox"/> Description of how design was analyzed (e.g., finite element, mathematical, etc.).  <input type="checkbox"/> Description of data collection and analysis.  <input type="checkbox"/> [8.0 pts]□</p>	<p>The introduction contains <b>two</b> of the following:  <input type="checkbox"/> Complete description of how project was completed in terms that a peer could complete it  <input type="checkbox"/> Description of design and fabrication  <input type="checkbox"/> Description of how design was analyzed (e.g., finite element, mathematical, etc.).  <input type="checkbox"/> Description of data collection and analysis.  <input type="checkbox"/> [6 pts]□</p>	<p>The introduction contains <b>one</b> of the following:  <input type="checkbox"/> Complete description of how project was completed in terms that a peer could complete it  <input type="checkbox"/> Description of design and fabrication  <input type="checkbox"/> Description of how design was analyzed (e.g., finite element, mathematical, etc.).  <input type="checkbox"/> Description of data collection and analysis.  <input type="checkbox"/> [2 pts]□</p>	<p>The introduction contains <b>none</b> of the following:  <input type="checkbox"/> Complete description of how project was completed in terms that a peer could complete it  <input type="checkbox"/> Description of design and fabrication  <input type="checkbox"/> Description of how design was analyzed (e.g., finite element, mathematical, etc.).  <input type="checkbox"/> Description of data collection and analysis.  <input type="checkbox"/> [0 pts]□</p>	
<p><b>9. Students will be able to show competence in the technical aspects (grammar &amp; style) of writing for INTRO, L.R., &amp; METHODS.</b></p>	<p>The paper is <b>highly organized</b> with paragraphs that are <b>well written, flow logically</b> and are <b>without</b> spelling, grammar, punctuation errors.  <input type="checkbox"/> [1.5 pts]□</p>	<p>The paper is <b>organized</b> with paragraphs that <b>flow logically</b>, and contain <b>few (&lt;3) errors</b> in spelling, grammar or punctuation.  <input type="checkbox"/> [1.0 pts]□</p>	<p>The paper is <b>organized</b>, but paragraphs do not flow logically <b>and/or</b> contain <b>many errors (4- 10)</b> in spelling, grammar or punctuation.  <input type="checkbox"/> [.75 pts]□</p>	<p>The paper is <b>disorganized</b> with paragraphs that are <b>weakly developed</b> and/or <b>significant errors (&gt;10)</b> in spelling, grammar or punctuation.  <input type="checkbox"/> [.5 pts]□</p>	<p>The paper is <b>disorganized</b> with paragraphs that are <b>extremely underdeveloped</b>, and/or <b>significant errors (&gt;10)</b> in spelling, grammar or punctuation.  <input type="checkbox"/> [0 pts]□</p>	
<p><b>10. Students will be able to clearly write an appropriate RESULTS section.</b></p>	<p>The RESULTS section contains <b>all</b> of the following:  <input type="checkbox"/> Comprehensive summary of results obtained  <input type="checkbox"/> Complete analysis of results  <input type="checkbox"/> Appropriate figures and tables.  <input type="checkbox"/> Tables and figures formatted correctly  <input type="checkbox"/> [20.0 pts]□</p>	<p>The RESULTS section contains:  <input type="checkbox"/> Comprehensive summary of results obtained  <input type="checkbox"/> Some analysis of results  <input type="checkbox"/> Appropriate figures and tables.  <input type="checkbox"/> Tables and figures formatted correctly  <input type="checkbox"/> [15.0 pts]□</p>	<p>The RESULTS section contains:  <input type="checkbox"/> Moderate summary of results obtained  <input type="checkbox"/> Some analysis of results  <input type="checkbox"/> Appropriate figures and tables.  <input type="checkbox"/> Tables and figures formatted correctly  <input type="checkbox"/> [10 pts]□</p>	<p>The RESULTS section contains:  <input type="checkbox"/> Basic summary of results obtained  <input type="checkbox"/> Minimal analysis of results  <input type="checkbox"/> Appropriate figures and tables.  <input type="checkbox"/> Tables and figures formatted correctly  <input type="checkbox"/> [5.0 pts]□</p>	<p>The RESULTS section contains <b>none</b> of the following:  <input type="checkbox"/> Basic summary of results obtained  <input type="checkbox"/> Minimal analysis of results  <input type="checkbox"/> Appropriate figures and tables.  <input type="checkbox"/> Tables and figures formatted correctly  <input type="checkbox"/> [0 pts]□</p>	

<p><b>11. Students will be able to write an appropriate discussion section</b></p>	<p>The DISCUSSION section contains all of the following:  <input type="checkbox"/> Summary of the purpose  <input type="checkbox"/> Comprehensive comparison of results to previous literature/work  <input type="checkbox"/> limitations of the work  <input type="checkbox"/> future work  <input type="checkbox"/> [20.0 pts] <input type="checkbox"/></p>	<p>The DISCUSSION section contains at least 3 of the following:  <input type="checkbox"/> Summary of the purpose  <input type="checkbox"/> Semi-comprehensive comparison of results to previous literature/work  <input type="checkbox"/> limitations of the work  <input type="checkbox"/> future work  <input type="checkbox"/> [15.0 pts] <input type="checkbox"/></p>	<p>The DISCUSSION section contains at least 3 of the following:  <input type="checkbox"/> Summary of the purpose  <input type="checkbox"/> Acceptable comparison of results to previous literature/work  <input type="checkbox"/> limitations of the work  <input type="checkbox"/> future work  <input type="checkbox"/> [10.0 pts] <input type="checkbox"/></p>	<p>The DISCUSSION section contains at least 2 of the following:  <input type="checkbox"/> Summary of the purpose  <input type="checkbox"/> Minimal comparison of results to previous literature/work  <input type="checkbox"/> limitations of the work  <input type="checkbox"/> future work  <input type="checkbox"/> [5.0 pts] <input type="checkbox"/></p>	<p>The DISCUSSION section contains none of the following:  <input type="checkbox"/> Summary of the purpose  <input type="checkbox"/> Comparison of results to previous literature/work  <input type="checkbox"/> limitations of the work  <input type="checkbox"/> future work  0 pts] <input type="checkbox"/></p>	
<p><b>12. Students will be able to formulate CONCLUSIONS logically tied to their analysis of the use of theory or model to guide research of a problem.</b></p>	<p>The CONCLUSION <b>thoroughly evaluates</b> and organizes <b>all</b> of the following:  <input type="checkbox"/> <b>Summarize</b> main points.  <input type="checkbox"/> <b>Avoid</b> new information.  <input type="checkbox"/> <b>Answer</b> the “so what” question (refers back to purpose).  <input type="checkbox"/> <b>Discuss</b> how managers or researchers can use the findings.  [3.0 pts] <input type="checkbox"/></p>	<p>The CONCLUSION <b>thoroughly evaluates</b> and organizes <b>three</b> of the following:  <input type="checkbox"/> <b>Summarize</b> main points.  <input type="checkbox"/> <b>Avoid</b> new information.  <input type="checkbox"/> <b>Answer</b> the “so what” question (refers back to purpose).  <input type="checkbox"/> <b>Discuss</b> how managers or researchers can use the findings.  [2.0 pts] <input type="checkbox"/></p>	<p>The CONCLUSION <b>thoroughly evaluates</b> and organizes <b>two</b> of the following:  <input type="checkbox"/> <b>Summarize</b> main points.  <input type="checkbox"/> <b>Avoid</b> new information.  <input type="checkbox"/> <b>Answer</b> the “so what” question (refers back to purpose).  <input type="checkbox"/> <b>Discuss</b> how managers or researchers can use the findings.  [1.5 pts] <input type="checkbox"/></p>	<p>The CONCLUSION <b>thoroughly evaluates</b> and organizes <b>one</b> of the following:  <input type="checkbox"/> <b>Summarize</b> main points.  <input type="checkbox"/> <b>Avoid</b> new information.  <input type="checkbox"/> <b>Answer</b> the “so what” question (refers back to purpose).  <input type="checkbox"/> <b>Discuss</b> how managers or researchers can use the findings.  [1.0 pts] <input type="checkbox"/></p>	<p>The CONCLUSION <b>thoroughly evaluates</b> and organizes <b>none</b> of the following:  <input type="checkbox"/> <b>Summarize</b> main points.  <input type="checkbox"/> <b>Avoid</b> new information.  <input type="checkbox"/> <b>Answer</b> the “so what” question (refers back to purpose).  <input type="checkbox"/> <b>Discuss</b> how managers or researchers can use the findings.  [0 pts] <input type="checkbox"/></p>	
<p><b>13. Students will be able to show competence in the technical aspects (grammar &amp; style) of writing for RESULTS, DISCUSSION &amp; CONC.</b></p>	<p>The paper is <b>highly organized</b> with paragraphs that are <b>well written, flow logically</b> and are <b>without</b> spelling, grammar, punctuation errors.  [1.5 pts] <input type="checkbox"/></p>	<p>The paper is <b>organized</b> with paragraphs that <b>flow logically</b>, and contain <b>few (&lt;3) errors</b> in spelling, grammar or punctuation.  [1.0 pts] <input type="checkbox"/></p>	<p>The paper is <b>organized</b>, but paragraphs do not flow logically <b>and/or</b> contain <b>many errors (4- 10)</b> in spelling, grammar or punctuation.  .75 pts] <input type="checkbox"/></p>	<p>The paper is <b>disorganized</b> with paragraphs that are <b>weakly developed</b> and/or <b>significant errors (&gt;10)</b> in spelling, grammar or punctuation.  [.5 pts] <input type="checkbox"/></p>	<p>The paper is <b>disorganized</b> with paragraphs that are <b>extremely underdeveloped</b>, and/or <b>significant errors (&gt;10)</b> in spelling, grammar or punctuation.  [0 pts] <input type="checkbox"/></p>	
<p><b>14. REFERENCES are in accordance with IEEE Style standards.</b></p>	<p>Reference page has <b>all</b> of the following:  <input type="checkbox"/> <b>Centered</b> References title  <input type="checkbox"/> <b>Numbered in order of appearance</b> references  <input type="checkbox"/> <b>Hanging Indentation</b>  <input type="checkbox"/> <b>Correct</b> use of IEEE Style for reference page sources.  [2.0 pts] <input type="checkbox"/></p>	<p>The reference page is organized, and contains <b>few (&lt;2)</b> of the same <b>errors</b>.  [1.5 pts] <input type="checkbox"/></p>	<p>The reference page is organized, and contains <b>many (3-5)</b> of the same <b>errors</b>.  [1.0 pts] <input type="checkbox"/></p>	<p>The reference page is organized, and contains <b>significantly errors (&gt;5)</b>  [.5 pts] <input type="checkbox"/></p>	<p>No reference page provided.  [0 pts] <input type="checkbox"/></p>	
<p><b>15. One or more APPENDICES are provided if necessary (e.g., code written, raw data, etc.).</b></p>	<p>Has an Appendix if necessary with the survey instrument.  [5.0 pts] <input type="checkbox"/></p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Does not have an Appendix  [0 pts] <input type="checkbox"/></p>	

Additional Comments: