**Team**: _____ Names: _____ Date: _____

| Criteria | Score |
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| Title Page<br>**2:** Title is descriptive and specific; lists the entity for which the report was written, i.e., San José State University, Charles W. Davidson College of Engineering, ME195B Senior Design Project II, name of professor, section number, names of the team members, date of submission. No page number on title page.<br>**1:** Title is adequate but may be lacking in specificity, missing one of the required elements or mistake in: entity for which presentation is being made, names of team members, date of presentation. | |
| Abstract<br>**5:** Succinctly and specifically states: **what** was done, **why** and **how** it was done, and **results** (performance results).<br>**4:** For the most part abstract what/why was done, how it was done, and results, but lacks a little in terms of specificity or quality of the summary.<br>**3:** Significantly lacking in description of what was done, why and how it was done, and results or missing one of the requested elements of the abstract.<br>**2:** Missing one or two of the requested elements of the abstract.<br>**1:** Missing more than two of the requested elements of the abstract. | |
| Acknowledgement<br>**1:** List of sponsors and/or professors, technicians, other students, friends and relatives who have supported or helped the project. | |
| Table of Contents<br>**1:** Includes titles of each section and subsection, and page numbers. Appears after Acknowledgement and before List of Figures. Nicely formatted. | |
| List of Figures<br>**1:** Includes caption of each table and page number that is consistent or matches the figure in the text. | |
| List of Tables<br>**1:** Includes caption of each table and page number that is consistent or matches the table in the text. | |
| Introduction Section (Chapter 1)<br>**8:** Fully and clearly describes what the project was all about, first in general (referring to the guideline to describe the general goals and requirements), and then specifically, presenting the specific objectives that the design addresses. Contains clear sketches, drawings, and/or photographs and verbiage that very clearly explains what the project is all about. Includes a detailed, well-documented literature review<br>**6:** For the most part describes what the project was all about, but lacking a little in clarity or completeness. Contains sketches, drawings, and/or photographs and verbiage that satisfactorily explains to someone unfamiliar with the project what it is all about. Literature review is present but may completely thorough. Environmental, society, and/or global impacts are discussed but not as completely as they could be.<br>**4:** Provides some introduction to the project, but may be missing general goals and requirements or specific goals and requirements. Somewhat less than satisfactorily introduces the background and goals of the project. May be missing sketches, drawings, and/or photographs if verbiage compensates. Literature review and discussion of environmental, societal, and/or economic impacts are sketchy.<br>**2:** Missing significant description to inform the reader about the background of the project. Literature review or discussion of environmental, societal, and/or economic impacts may be missing. | |
| Social Impacts<br>Note that this should not appear as a separate section but should be part of Chapter 1.<br>**6:** Global, social, environmental, political and/or health and safety issues thoroughly discussed, including issues leading to a need for the project and those predicted to result from the project.<br>**3:** Effects are discussed, but the analysis is weak and only touches the surface. | |
| Analytical Background (Chapter 2) | |

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| **12:** Thoroughly explains the engineering theory behind all major design decisions. Important equations included in the text with additional details in appendices as needed.<br>**8:** Engineering theory behind most major decisions discussed. Some theory or equations may be missing, and discussion may not be as thorough as it could be.<br>**4:** Theory behind some major design decisions is missing. Discussion is present but very incomplete. | |
| <u>Prototype Design (Chapter 3)</u><br>**25:** Pros and cons of several design concepts discussed. Simulations, theoretical calculations, and/or experiments used to justify and optimize design. Detailed calculations and/or simulation results in appendices. Clear and complete documentation of design through sketches, drawings, and/or photographs to clearly show design details. Complete CAD drawings present in appendices.<br>**20:** Adequate but not excellent use of simulation and/or theoretical calculations to justify design. Some elements of the design may not be optimized. Somewhat effectively uses sketches, drawings, and/or photographs to show design and performance details. Minor omissions in CAD drawings.<br>**15:** Justification of design choices quite incomplete. Missing some information to fully document the design. Some CAD drawings missing or poorly done.<br>**10:** Alternative design concepts missing. Limited justification of design. Missing significant amounts of information to document the design, including multiple missing or poorly done CAD drawings.<br>**5:** Alternative design concepts missing. Almost no justification of design. Very inadequate documentation of the design, including few CAD drawings. | |
| <u>Microcontroller and Electronic System Interface (Chapter 4)*</u><br>**8:** Use of microcontrollers and electronic components discussed and justified. Block diagram of electronic circuits included. Appropriate use of data acquisition documented.<br>**5:** Adequate discussion of electronic elements included, but choice of components and data acquisition setup may not be fully justified.<br>**3:** Use of some electronic elements and/or data acquisition setup may be poorly documented or missing. | |
| <u>Fabrication and Assembly (Chapter 5)</u><br>**10:** Bill of materials and table showing all costs included. Assembly method clearly documented, with drawings as needed. Thorough discussion of challenges during construction and assembly. Data sheets in appendix.<br>**7:** A couple minor components may be missing from bill of materials and cost table. Adequate but not thorough discussion of assembly method or construction challenges.<br>**4:** Poor documentation of assembly method. Discussion of challenges may be missing, along with multiple components that should appear in the bill of materials, cost table, or data sheets. | |
| <u>Testing Results and Appendices (Chapter 6)</u><br>**20:** Testing setup completely tests all major aspects of design. Effective use of data acquisition, as needed. Calculation of experimental uncertainty included, as needed. Testing results effectively presented using figures and tables. Thorough analysis of how well the prototype meets the specifications/design criteria.<br>**15:** Testing setup completely tests most but not all major aspects of design. Effective use of data acquisition, as needed. Calculation of experimental uncertainty included, as needed, but may not be as thorough as it could be. Testing results effectively presented using figures and tables. Adequate but not thorough analysis of how well the prototype meets the specifications/design criteria.<br>**10:** Testing setup tests some major aspects of design. Use of data acquisition, as needed, could be better. Calculation of experimental uncertainty may be missing. Testing results presented using figures and tables but may not be very clear. Discussion of how well the prototype meets the specifications/design criteria is limited .<br>**5:** Limited testing. Data acquisition and calculation of experimental uncertainty may be missing. Poor presentation of testing results with little to no analysis. | |
| <u>Conclusions, and Recommendations for Further Work (Chapter 7)</u><br>**5:** Clear and complete conclusions and recommendations for further work; demonstrates that some thought was given as to what worked well and/or did not work well. Recommendations are specific and show that some thought was given toward what could be done to improve the design.<br>**4:** Clear conclusions, but recommendations for further work lack some specificity and/or substance. | |

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| **3:** Conclusions less than clear, recommendations for further work may lack some specificity and/or substance.<br>**2:** Conclusions or recommendations missing or poorly done.<br>**1:** Inadequate or missing conclusions and/or recommendations for further work. | |
| Global Impacts<br>Note that this should not appear as a separate section but should be part of Chapter 7.<br>4: Clear discussion of how your project would need to change if implemented in a different country; if not at all, clear discussion of why not; also a thorough discussion of health and safety effects of your project.<br>2: Discussion of these two issues is present but only touches the surface. | |
| References<br>**3:** Properly cited in body of report and reference list, pertinent references. Shows that research was done.<br>**2:** References that are pertinent, but may be improperly cited. Shows that some research was done.<br>**1:** Few references or missing references, or obvious that no or little research was done. | |
| Spelling, Grammar, Organization, Neatness<br>**8:** Report has no more than five grammar or spelling errors. Well organized with proper page numbering and correct numbering of tables and figures (including figure captions located under figures and table titles located above tables).<br>**6:** Report has no more than ten grammar or spelling errors OR page numbering incorrect OR numbering of tables and figures incorrect.<br>**4:** Report has more than 15 grammar or spelling errors AND either page numbering incorrect OR numbering of tables and figures incorrect. | |
| **Total** | **/116** |

*Points for this section may be varied as appropriate for a particular project.

Comments: