

Student Evaluation Criteria – Engineering

I. Research Problem
☐ description of a practical need or problem to be solved
☐ definition of criteria for proposed solution given and analyzed
☐ explanation of problem constraints
☐ background is thorough and clear and is tied to scientific literature
II. Design and Methodology
☐ exploration of alternatives to answer need and or problem (ex Pugh chart, cost benefit analysis)
☐ identification of a solution that addresses original design constraints
☐ development of a prototype/model
III. Execution: Construction and Testing
☐ prototype demonstrates intended design
☐ prototype has been tested in multiple conditions/trials
☐ data collection procedure for testing is thoughtfully designed
☐ graphs and data show relationships between variables and are supported by the use of correct and thorough statistics
☐ prototype demonstrates engineering skill and completeness
IV. Creativity
☐ project demonstrates significant creativity in one or more of the above criteria
V. Presentation
a. <u>Poster</u>
☐ logical organization of material allows key parts of project to be easily found & enhances understanding
☐ graphics and legends are clear
☐ supporting documentation displayed
b. <u>Interview</u>
☐ clear, concise, thoughtful responses to questions
☐ understanding of basic science relevant to project
☐ understanding interpretation and limitations of results and conclusions
☐ degree of independence in conducting project
☐ recognition of potential impact in science, society and/or economics
☐ quality of ideas for further research
☐ for team projects, contributions to and understanding of project by all members