**Design Challenge Rubric**

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|  | Extra Credit | A | B | C | F |
| Successful Solution | Meets criteria and one or more super challenge criteria | Solution clearly solves the problem but not super challenges. | Solution solves problem inelegantly or inefficiently | Solution does not completely solve problem. | No reasonable attempt made to solve problem. |
| Programming | Program uses advanced techniques including Boolean logic, Complete palette blocks, etc. Program demonstrates extraordinary creativity or unique way of solving problem | Program is straightforward and efficient, and uses appropriate programming constructs. Program has a reasonable algorithm for solving problem and uses good logic. | Program is straightforward and easy to understand. Program is inefficient. Program has a reasonable algorithm for solving problem. | Program is poorly written or difficult to understand. Program has unused parts or does not correctly control robot. Algorithm is strained. | Program does not work. Program does not solve problem effectively. |
| Construction | Robot constructed using advanced gearing or other advanced construction techniques. Robot demonstrates extraordinary creativity. | Robot is of sound construction: nothing falls off, robot works as intended. Mechanics used well to achieve desired outcome. Robot can solve problem repeatedly. | Robot works as intended, but some extraneous parts fall off. Moderate degree of repeatability: robot will run again but must be adjusted or fixed | Robot does not work as intended, but does move. Robot falls apart. Very simple construction – mechanics not used well. Robot cannot run repeatedly. | Robot falls apart or does not move at all. Construction appears careless or haphazard. |
| Documentation | Documentation goes beyond required paperwork. | Ample and accurate documentation.Documentation kept consistently and thoroughly | Good documentation: documentation kept consistently but not as thorough as it could be. | Fair documentation: documentation kept inconsistently and missing parts. | Little or no documentation |
| Cooperation | Student(s) helped other groups | Student worked well with group. Student participated actively in all parts of project. | Student worked somewhat well with group. Student participated in most parts of project. | Student had trouble working with group. Student participated in few parts of project. | Student did not participate in project. Student sabotaged others’ work |