

Innovative Design Rubric

Criteria	Creativity in Function: Unique use of sensors Unique use of other Performs function in unusual way Creatively approaches and solves mission Creative aspect works	Uniqueness Design not based on building guide Design not seen before Design innovative and creative Significantly different for all other robots	Creativity in Design Process Team generated lots of ideas Team willing to take risk Developed design ideas from unusual sources	Creativity in Design and Appearance Unique and different appearance Creative element also adds functionality Robot has personality	Overall Design and Integration Design consistent with team's plan Design consistent with team's scoring strategy Design shows systems thinking All elements work together well
0-4 Poor	Students have difficulty explaining sensor use, function, no creative aspects in work, design or strategy	Design is from building guide Design is used often by many teams Robot has minor differences for other robots Team relied on guide for ideas	Team relied on building guide for all ideas Team took no risks Team relied on coach for ideas	Robot appearance and design common No creative element Robot has personality	Team does not have design plan or scoring strategy No system thinking Elements work some of the time but not together
5 – 8 Fair	Robot does have sensor(s) – students have minor difficulty explaining ideas – robot is unstable during demonstration – No unusual strategy	Team mostly used building guide Added elements to basic robot Design is not strong – robot can not perform mission as desired Design is not innovative	Team relied on building guide for most ideas Team did not take risk Team did some research from usual sources	Robot appearance has one thing that is unique Creative element but not functional Robot has personality	Team has some specific plans - robot built using building guide Team has scoring strategy, but design does not work to achieve strategy Little systems thinking Elements work most of the time, but not together
9-12 Good	Robot has sensors – students can explain, Used parts in different way Robot is stable Unusual strategy	Design is not based on building guide Design elements functional but not creative Robot performs mission with minimal problems	Team relied on building guide for minimal guidance Team took minimal risks Team did research from usual sources but did not translate into robot	Robot appearance and design has one thing that is unique Creative element is functional but has some problems working properly Robot has personality	Team has plan and robot built using on few ideas form building guide Team has scoring strategy, and design sometimes works to achieve strategy Some systems thinking Elements work together with problems
13-16 Very Good	Robot uses sensors – has parts that are unusual – or performs some function in an unusual way, creative aspects don't work as well as planned	Design not based on building guide Design elements are creative Robot performs mission Robot is not significantly different from other robots	Teams relied on building guide and generate own ideas Team took some risks Team used some unusual sources and tried to translate into design	Robot appearance and design has some uniqueness about it Creative element is functional and works Robot has personality	Team has plan and robot built not using building guide Team has scoring strategy, and design works to achieve strategy Some systems thinking Elements work together
17-20 Excellent	Unique use of sensors Using Parts in other than usual way Performs some function in unusual way Creatively approaches and solves mission Creative aspect works	Design not based on building guide Design not seen before Design innovative and creative Significantly different for all other robots Robot performs mission reliably.	Team generated lots of ideas Team willing to take risk Developed design ideas from unusual sources	Unique and different appearance Creative element also adds functionality Robot has personality not seen in any other robot	Design consistent with team's plan Design consistent with team's scoring strategy Design shows systems thinking All elements work together well