

2025 SkillsUSA Additive Manufacturing

Challenge Grading Rubric

Criteria	Levels of Attained Competence	Points
<input type="checkbox"/> The Design is Completely 3D Printed (The design can be print in place or assembled after printing, without addition hardware/glue)	Uses External hardware	0
	Glue for assembly or final design	5
	Final design uses only 3D printed components	10
<input type="checkbox"/> Parts Mate, Assemble and/or Fasten Together as Designed (Parts or bodies can be assembled as designed, and are printed together or can be fasten securely to each WITHOUT other using additional hardware)	Parts do not fit together as intended	0
	Some parts fit together as designs, considerable post processing is needed for fitment, or some parts do are not fully secure to one another	3
	All parts mate and assemble as designed, and are securely fastened to one another	10
<input type="checkbox"/> Part Contains Legibly Printed Team Name and/or Number on Final Design	Final Design does not contain team name/number	0
	Final Design contain team name/number but is illegible	5
	3 or More Printed Bodies/Parts have motion	10
<input type="checkbox"/> The Final Design utilizes printed wheels no larger than 3"	The wheels are not printed and are larger that 3" in diameter	0
	The wheels are not printed, and are no larger than 3 in. in diameter	2
	The wheel are fully printed and are no larger than 3" in diameter	20
<input type="checkbox"/> The Final Design contains 3 individual moving printed parts	The design contains 2 or less moving parts	0
	The final design contains 3 moving parts	8
	The final design contains 4 or more moving parts.	10

<input type="checkbox"/> The Final Design must be not exceed 6" x 4" x 4" in size		0
	The final design exceeds the dimensional limits	0
	The final design is with the dimensional limit	20
<input type="checkbox"/> Total Build Time (Total print time for all parts included in the assembly)	Print time exceeded 12 hours	0
	Print time was between 8 and 12 hours	8
	Print time was 8 hours or less	10
<input type="checkbox"/> Total amount of Material (Total amount of Model and/or Support material used combined)	More than 5 cubic inches of Material	0
	2-5 Cubic inches of Material	4
	Under 2 cubic inches of material	5
<input type="checkbox"/> Design Creativity and Uniqueness (Does assembly display design intent, functionality, originality)	Rudimentary/Basic Design	1
	Original design displaying well though out attributes	4
	Creative design with functionality	5

Functional Track Testing

<input type="checkbox"/> The Final Design is Completely Powered by a Single Rubber Band	The final design does not run by the rubber band, nor starts from a gentle nudge	0
	The final design runs by the rubber band but requires a slight nudge to start	10
	The final design starts and moves completely by the rubber band	20

<input type="checkbox"/> Final Design Drive Distance on Track (for every foot traveled after 3 feet will be 10 points + the number of additional feet) Total points from this section CAN NOT EXCEED 80 pts)	The final design travels less that 1 inch	0
	The final design travels between 1 to 6 Inches	15
	The final design travels between 6 and 12 Inches	20
	Every inch traveled after 12 inches (Add one additional point for every inch traveled over 12 inches)	20 +1/inch