

# SCORING RUBRIC

## ENGINEERING DESIGN AWARD

### 2024



Design Element	Needs Improvement (0)	Fair (2)	Good (4)	Excellent (6)	Exceptional (8)
<b>Material Use</b>	Chosen materials do not suit the vehicle's requirements.	Materials are just adequate; may not enhance performance or safety.	Materials are appropriate for the task.	Materials chosen are suitable, and students show some understanding of why they were chosen.	The best-suited materials are used to enhance vehicle performance, safety, and durability.
<b>Construction</b>	Vehicle construction is weak and likely to require significant improvement.	Construction is somewhat sturdy, but not without issues.	Vehicle construction is solid enough for the purpose.	Vehicle is well-constructed with minor excess; good understanding of structural requirements.	Vehicle construction is exceptionally robust, without unnecessary bulk, and fit for its purpose.
<b>Innovation</b>	No new or creative features are present.	One new feature added; may not be fully integrated.	At least one innovative feature well-integrated into the vehicle design.	Two innovative features are included; understanding of their application is evident.	Multiple innovative features are used, demonstrating a strong grasp of how they enhance the vehicle.
<b>Design &amp; Finish</b>	The design lacks thought, and the finish is poor or incomplete.	Design is basic; the finish is lacking, indicating more work is needed.	Design is sound; the finish could be improved.	Design shows attention to detail; the finish is neat but could be refined.	The design is of outstanding quality, and the finish is of a professional standard.
<b>Performance Data</b>	No system is in place to measure vehicle performance.	A rudimentary system is present but limited in function.	A basic performance measurement system is built.	A well-thought-out system is in place, but explanations may lack detail.	A custom-built, comprehensive performance measurement system is fully operational and well-explained.
<b>Control System</b>	No control system is built for additional non-motion related functions.	A basic control system is attempted for extra functions, like lights.	Control system for extra functions is present and functioning.	Control system for extra functions is well-made; partial explanation provided.	An advanced control system for extra functions is in place and expertly explained.
<b>Electronics &amp; Wiring</b>	Wiring and electronics are messy or unsafe; the function is not explained.	Wiring is secure; circuit functions are somewhat explained.	Wiring is neatly done; basic explanation of the circuit's function.	Wiring and assembly are tidy and well explained, though not expert-level.	Electronics and wiring are exemplary in neatness and safety; each part of the circuit is explained in detail.

## Engineering Design Award - Cont.

Design Element	Needs Improvement (0)	Fair (2)	Good (4)	Excellent (6)	Exceptional (8)
<b>Team Q&amp;A</b>	The team cannot answer questions about their vehicle.	The team struggles with some questions; understanding is basic.	The team can answer questions with a fair understanding of their vehicle.	The team answers questions well; they engage the judges with a few questions of their own.	The team confidently answers all questions, demonstrating in-depth knowledge, and also asks insightful questions.
<b>New Build Bonus</b>	The vehicle is an unchanged old build.	The vehicle is an old build with minimal updates.	The vehicle is an old build that has been significantly rebuilt.	The vehicle incorporates new features into an existing build.	The vehicle is a completely new build from the ground up, showcasing substantial innovation.