2009 Alliant Energy Iowa Electrathon Design Evaluation Form

Date: _____ Car Number: _____ Year Built: _____ Division: _____

Team/School: _____ Judge: _____

System	Description	Points Awarded
Braking	Bike Style Moped Style Other	1 2 3 4 5 6 7 8 9 10
Comments:		
Steering	Power Homemade Borrowed (note from)	1 2 3 4 5 6 7 8 9 10
Comments:		
Frame	Apparent Strength & Design	1 2 3 4 5 6 7 8 9 10
Comments:		
Electrical	Standard/Basic Innovative	1 2 3 4 5 6 7 8 9 10
Comments:		
Mechanical	Standard/Basic Innovative Linkage/Operation	1 2 3 4 5 6 7 8 9 10
Comments:		
Materials	Plastics Steel Aluminum Other	1 2 3 4 5 6 7 8 9 10
Comments:		
Workmanship	Clean Quality Welds/Build	1 2 3 4 5 6 7 8 9 10
Comments:		
Creativity	Borrowed Innovation	1 2 3 4 5 6 7 8 9 10
Comments:		
Safety	Apparent Consideration & Application	1 2 3 4 5 6 7 8 9 10
Comments:		
Overall	General Design & Construction	1 2 3 4 5 6 7 8 9 10

Comments: _____

Total Points: _____ (100 Points Possible)

- **Braking**
  - Hydraulic
  - Level of sophistication
  - Loose/floppy or durable, thoughtful placement of lines
  - Obstruction with Body/Operational difficulties
  - Satisfactory efficiency/stopping capability
  - Application/Linkage to Driver
- **Steering**
  - Inclusion of geometry angles (Adjustable to what degree, how performed)
  - Safety
  - Based on road course or race track
  - Operation—wheel/ bobcat like/ other
  - New complex design, basic, or drop in
- **Frame**
  - Balance between protection and weight
  - Material utilized/welding ability
  - Special considerations for safety or damageable areas
  - Amount of cross-bracing and location throughout, supercedes spacing rules or minimally meets
  - Level of design and forethought
  - Number of adjustments made due to unforeseen problems, stress points not considered?
- **Electrical**
  - Clear cut and simple or complex mess of wires (color coded?)
  - Proper gauge wires and insulation, protection from driver/moving parts/track?
  - Use of circuit breaker/kill switch and location
  - Easy to troubleshoot or very difficult (generally problem free or a plague?) Why?
  - Any additional electronics, meter devices
- **Mechanical**
  - Motor choice
  - Gear/sprocket/chain choice and alignment
  - Ease of repair/replacement of critical components
  - Highly sophisticated design or basic operation
- **Materials**
  - why did they use what they used (cost, ability, availability)
  - Multiple materials or use the same throughout
  - Weight or safety issues
  - Attachment to the frame/chassis
- **Workmanship**
  - Do the welds appear thorough and have properly heated and fused the two metals?
  - Have they properly finished the car as if it was on display or just finished minutes before the race
  - Body design and application forethought
  - Proper fasteners?
- **Creativity**
  - Solved problems through CAD or other designs by thought
  - Utilized another part since far superior (or used idea but implemented through new design)
- **Safety**
  - Body structure and frame design
  - Emergency egress efficiency
  - Nose cone design and implementation
  - Canopy
- **Overall**