

# Formula Schools Building Bridges Rules and Regulations

The following Rules and Regulations are for the Building Bridges Formula Schools Competition. The competition is aimed at 11 to 18 yr old students working in teams. The Rules and Regulations are designed to enable the teams to compete on a reasonably level playing field, whilst encouraging technical innovation, without being too restrictive.

The organisers will be happy to give their interpretation of any aspect of the rules should the need arise, during the build phase as well as on race day, reflecting the spirit of the competition.

## Formula:

Stock components are supplied to produce two starter chassis, however the theme of the competition is to develop these in line with performance and marketing criteria

- Chassis** As supplied in the kit, or design your own within the allowed dimensions
- Power-train** Only motors supplied by the organisers can be used
- Cars may only be powered by one motor
- Battery** Batteries supplied by the organisers can be used either singly or in parallel, no series connections to increase the voltage from a nominal 4.8 volts
- There are no limits to construction, provided the whole car falls within the dimensions given in these regulations
- Body** No restrictions
- There are no restrictions on the body shape or construction, but the body shape must be identifiably a car
- Suspension** Formula Schools kit or scratch built
- Any geometry can be used
- Drive Train Gearing** No restrictions
- The car can be front, rear or four wheel drive
- Tyres & wheels.**
- No limits on tyre and wheel width, material and design
- Radio** Radio gear will be allocated by the organisers. This is the only radio gear that can be used on race day. Prior to race day the choice is left to participants.
- Dimensions** Inclusive of all body projections and aerodynamic features, except the radio aerial. Approximately 1/10 scale construction
- | All in mm | Maximum | Minimum |
|-----------|---------|---------|
| Length    | 500     | 250     |
| Width     | 250     | 100     |
- Weight** There are no weight restrictions

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**Car Identification** Numbers will be allocated by the organisers and must be easily identifiable throughout the race. If a car loses its bodywork during a race it will not accrue any further points

Scrutineers will also look for safety features (eg no sharp projections that could injure competitors) and to ensure that car construction is designed for racing rather than damaging other competitors' cars.

## Judging

This will take place on Race Day at Silverstone in June

The overall winner will be the team gaining most points from a combination of race results (30 points max) and scrutineering (70 points max). In the event of a tie the team with the most race points will win.

All races are time trials; the race winner will be the team completing the course in the least time. Time penalties of 5 seconds are added in for each contact with a course marker up to a maximum of 30 seconds

### *Practice Sessions*

- You will have the chance to practice for a minimum of 15 minutes on the full all terrain course prior to the knockout time trials.
- Cars will leave the pit lane in pairs from partner schools at five minute intervals.
- Teams may restart and work on their car during the trial so long as they do not hinder the other competitors and they are not seen to gain an advantage when the car is placed back on the track. If a car has to be withdrawn from the track, it must restart from the pit lane.
- Three rounds of the course will be completed by all cars with course modifications between rounds.

All cars brought to race day must have been built as part of the engineering challenge. Only one car may be used per race (ie a damaged car cannot be swapped in mid-race) but different cars can be entered for different races.

## Point Scoring

### Racing

The team completing the course in the fastest time including any time penalties will win. Points will be awarded as follows:

Position	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>
Points	10	8	6	5	4	3	2	1

Any team or driver who seriously obstruct or damage other competitors' cars will be disqualified from the race concerned.

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## Scrutineering

Marked in increments of 0.5

The following categories will be awarded points

- Engineering 40
- Body and Aerodynamics 20
- Teamwork 10
- Total 70

## Engineering, Body and Aerodynamic design

The scrutineers will be looking for quality of design and implementation by checking the pupils' understanding of the engineering of their cars. Wholesale use of kits to develop your car(s) will be marked down.

## Teamwork

Scrutineers will be looking for a cohesive team with clear roles, interchangeability where appropriate. They should be able to solve problems as a team and react to changing circumstances

For full details of points allocation see the 'points criteria' section of rules and regulations.

## Trophies will be awarded for the following categories:

<b>Group 1 Expert</b>
Overall Champions Best Pit Display at Race Day
Engineering Body and Aerodynamics Teamwork
<b>All Terrain</b> Fastest individual time Fastest partnership team time Least penalty point Teamwork