

University of Warwick Racing Team

Chassis Design Challenge

The aim of our challenge is to design a Tubular Chassis for our next generation electric car, based on our current models!



Warwick Racing Team Car

Think of a car like a person. The skeleton inside the person is like the chassis of a car. It's the strong, tough frame that holds everything together. The chassis in a car is what gives the car its shape and strength. The team need a new design to build their next electric vehicle, taking into consideration that the car needs to be both safe and fast. The following things should be considered:

- Where will the wheels be mounted?
- Where will the batteries be placed?
- Where is a good spot for the motors (used to turn the tyres)?
- Where should the driver sit? They need to have good visibility and comfort
- What safety features will you include?
- What materials will your chassis be made of?

Secondary Level Competition, ages 11-16:

You should research and then design (by hand or computer) a diagram of what you would want your chassis to look like. Please include a front, side, rear and top-down view of your design.

Sixth-Form / College Level Competition, ages 16-19:

For this level of the competition, we ask you to start thinking about aerody and how easily the driver can use the car. As well as the specifications abc would like you to include:

- A front and rear wing
 - Think about the airflow over and around the car, why do the help the driver?
- Ergonomic Driver's Area
 - Think about how the driver need easy access to controls, clear visibility, and a comfortable driving position.

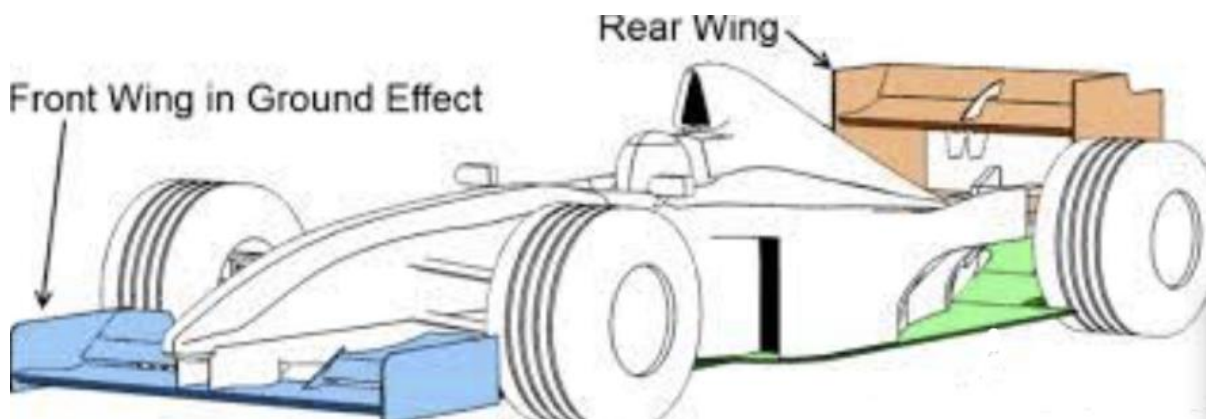


Diagram of a front and rear wing of an F1 car

For this level you can also include any CAD designs that you wish, but it is not necessary!

Whilst any CAD program can be used, one easy-to-learn program is *SketchUp*. This can be used online for free at:

<https://www.sketchup.com/products/sketchup-for-web>

There are good tutorial videos and playlists on YouTube that might help you with learning the basics - but have a play!

If you have any questions about the technical details of the competition, please contact warwick.racing@outlook.com