



Vehicle dynamics

Design of variable steering geometry

Green innovation meets performance

Our Project

Formula Electric Belgium is a team of engineering students who build a **Formula-Student racecar** to compete in international competitions. We design and build a brand-new car every year and compete with other teams in multiple worldwide competitions during the summer months. Formula Student is by far the biggest **engineering competition** in the world and continues to grow. From next year on, we will be competing in both the **electrical** and **driverless** competition. You can join the project as a volunteer. This allows you to contribute to the next race car whilst keeping a flexible schedule.

Tasks

The cornering performance of a racing car is largely dependent on the **steering characteristics**. There are several different types of steering behaviour, such as Ackermann steering or parallel steering. Typically, one steering mechanism is made with the **best compromise** between low-speed steering kinematics and high-speed tyre grip.

However, it would be useful to be able to **adjust the steering behaviour** depending on the characteristics of the track. This case is about designing a way to **mechanically** adjust the steering during setup before the car goes out on track. During this case, a range of steering characteristics will be simulated and the design of the adjustment system will be made in NX.

Profile

- Basic knowledge about vehicle dynamics
- Basic knowledge about steering geometries (Ackermann, Anti-Ackermann, etc.)
- Experience with NX
- Experience with multibody software (Simcenter 3D or other)

Returns

- A unique engineering experience
- Applying your engineering skills on a real case
- Work in a team of young and motivated engineering students
- Learn about vehicle dynamics and race car design

Up for the challenge?



Want to perform a similar case-study within our team? Submit your **resume** and **motivation letter** (one page) to volunteers@formulaelectric.be