



# Vehicle Dynamics

## Semi-active systems

## Green Innovation meets performance

### Our Project

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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

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As part of the Vehicle Dynamics Department you are responsible for the physical implementation of the Suspension System, more specifically the implementation of the **Semi-active Suspension System and Kinetic Anti-Roll**. These topics contain the development of the **valvehousings** for the **Semi-active Valves**, Temperature Regulation, the Semi-active **Shock Absorbers** and the connections between these components.

You have to be able to keep an overview of all the parameters concerning the Suspension System. Furthermore, you will closely work alongside the Vehicle Dynamics Controls Department to bring the Semi-active Suspension System to life.

In the second semester, you will assemble your newly-developed parts and develop testing methods that allow you to **test** the Vehicle Dynamics of the newly-made racecar on a test circuit.

### Profile

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- Basic knowledge about Vehicle Dynamics
- Experience with CAD-software and FEM-simulations
- Experience with MATLAB
- Interest in advanced suspension systems (Semi-active, active, kinetic, ...)

### Returns

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- A unique engineering experience
- Developing your hard- and soft-skills in a company-like environment
- Work with the newest technologies and innovative companies
- Work in a team with a network of well over 120 partners
- A summer season packed with competitions all over Europe
- An experience of a life-time!

### Up for the challenge?

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Submit your **resume** and **motivation letter** (one page) to  
<https://formulaelectric.be/vacancies-theses/>