



RACE ENGINEERING

THE POST BACHELOR PROGRAMME

Academic year 2018-2019, Italy October 2018

The innovative course has the aim of training highly qualified professionals with a solid background in Race Engineering.

The applicants will gain particular specialised skills in managing all the aspects of the racing cars; they will take a Course of Advanced Driving specifically designed and will be trained both on static and dynamic simulators.

Along with the theoretical rationale on vehicle dynamics, the course provides students with special and specific competence in Race Engineering through **11 full days of activity** on the Quattroruote ASC (Automotive Safety Centre) track and proving ground areas at Vairano (PV).

The Programme will lead them from the first approach to the full technical management of the racing car. **MTS** (Motorsport Technical School) provides a **Fia F4 single-seater**: performed by a **professional pilot** it is the pivot of all the technical activities. A **professional race engineer** with international experience guarantees the **expert guidance** during the unique training.

Workshops with professional race engineers cover all kind of problems regarding technical topics relating car

set up and performance. Furthermore, issues such as the radio communications between engineer and driver and the real meaning of teamwork are dealt with.

With the Bio-mechatronics module the students are introduced to the **driver/vehicle interaction methodologies** and to the physiological adaptation and stress evaluation topics with particular emphasis on the **psychological issues** involving the relationship with the driver. Expanding their senses and managing their emotions as a key factor for success.

The innovative training program of the course is completed by the use of a **Vi-Grade compact static simulator**, located at the Master's course headquarters in Palazzo Vistarino (University of Pavia), for developing vehicles in a virtual environment. Students will attend also special workshops on the **Skydrive driving simulator** set up at the Monza Circuit.

A device specifically tuned up for the **joint coaching of the pilot and the engineer**.

The course includes a **6 months internship** period offered by the racing Teams partner of the Programme.





The Programme

- Vehicle Dynamics - Fundamentals
- Virtual Dynamics Design and Simulation Propulsion
- Dynamic Control of Vehicle
- Advanced Driving Course
- Aerodynamics
- Biomechanics - Driver/Vehicle interaction
- Total Vehicle Set Up for Performance
- Drive your team
- Race engineer science

Duration: **one-year full-time**

Start date: **October 2018**

Location: **Pavia, Italy**

Application start: **July 2018**

Minimum requirements for admission: **Bachelor Degree in Engineering**

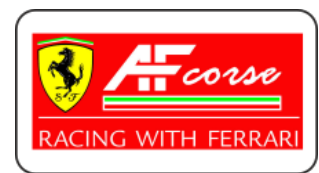
Advanced Short Courses included:

During the Programme, the applicants will attend technical visits and will participate to Advanced Short Courses, held by expert professionals from Academics and Companies on the following topics:

- Data acquisition and Analysis and trackside documentation
- Racing Tire Design and Manufacturer
- Racing Brake System and components



Technical partnership



For further information:

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<http://iii.unipv.it/index.php?pag=didattica/master.html>

