POWERTRAIN ENGINEERING

APPLIED GRADUATE STUDIES

Language: **English** | Duration: **16 months** | Degree: **Master's degree/Specialized engineering degree**

Sustainable mobility relies on the ability of tomorrow's powertrain engineers to find innovative solutions. Want to help build an environmentally-friendly global automobile industry? Our Powertrain Engineering program offers training suited to this industry's needs and future growth, transforming you into a sought-after Global Powertrain System Engineer who is prepared to become directly operational. This international program will help you build a rewarding career in a multicultural environment. Seize your opportunity!

HIGHLIGHTS

- Continuous or alternating school/company program
- After graduation, ready to work in any part of automotive powertrain sector
- Ability to address the energy transition and sustainable mobility challenges
- Capacity to work in a global and multicultural environment

The worldwide growing needs for individual mobility will create new challenges for future powertrain engineers. The automotive industry will need new talented powertrain system engineers that will have the necessary technical skills but will also be able to work on a "global" stage of engineering in the multicultural environment of international teams.

The IFP School Powertrain Engineering program provides this technical, cultural and international training enabling you to be operational in all automotive industry fields related to powertrain development and integration.

The program content is designed in close relationship with industrial partners and classes are taught by professionals of this industry so that the specific technical and methodological features of these professions can be appropriately conveyed.

Working methods and rhythms are based on those used in industry, enabling you to be immediately operational upon leaving the School.

The English-language Powertrain Engineering program is a meeting place for young students from many countries who aspire to become specialists in the study, development and implementation of the entire drive train, of its electrification and hybridization and of its main components. Increasingly complex working tools and methods, constantly tighter development deadlines and heightened quality requirements all bring about a strong need for international cooperation between the various industrial fields concerned (engine and powertrain manufacturers, electronics companies, component manufacturers, materials and energy suppliers, research laboratories, etc.).

Against this backdrop, this unique graduate program, giving you both cutting-edge technical skills and an overview of powertrain development, provides the best assets to make you the actors of sustainable mobility and engineers at the core of international cooperation, much sought after by industrial players in these various sectors.

CAREER OPPORTUNITIES

- **Car and truck manufacturers**
- **Automotive engineering and R&D companies**
- **Automotive equipment suppliers**
- **Research laboratories or PhD studies**

Find out more: **www.ifp-school.com**

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TYPICAL CLASS PROFILE/ MAINS SPONSORS

Students in this program are almost all sponsored by companies (through sponsorships or apprenticeships) that finance their living expenses during the academic period and contribute towards their tuition.

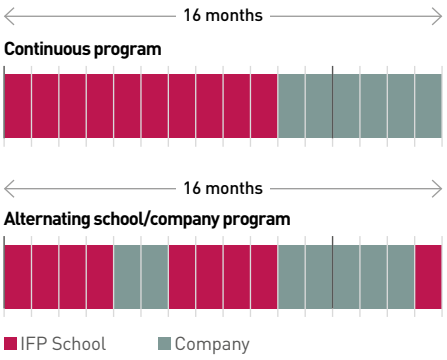
Among these companies, the following have been IFP School partners in recent years (non-exhaustive list):
AVL, BEG, Bosch, Continental, D2T, Delphi, Exothermia, Faurecia, FEV, Ford, Groupe PSA, Heurtey, HTI Automobile, IAV, IFPEN, Man, Mann Hummel, Mubea, Peugeot Scooters, Renault, Renault Sport Cars, Valeo, Volvo Powertrain.

PROGRAM CONTENT

- Introduction to the powertrain
- Conventional and advanced combustions in engines
- Thermodynamics and efficient energy conversion
- Powertrain technology
- Powertrain fuel and air supply
- Environmental issues (worldwide emissions standards, pollutant formation, life cycle and well to wheel analysis, CO_2 and global warming issues) and pollutant emissions reduction (after treatment technologies and control)
- Fuels and lubricants
- Transmissions, hybrid and electrified drive trains
- Powertrain and vehicle testing
- Powertrain control and mechatronics (including interaction with connected and automated vehicle)
- Vehicle integration and optimum energy management (including energy storage systems)
- Automotive powertrain market and intercultural management

PROGRAM SCHEDULE

The two examples of schedules shown below correspond to the most frequently encountered cases for students in this program: 16-month continuous program for students with a 4- or 5-year engineering degree; alternating school/company 16-month program for students with a 5-year engineering degree.



There are other possible cases, such as:
- 22-month alternating school/company program for students in their penultimate year of a major European school or university having signed a double-degree agreement with IFP School;
- 18-month alternating school/company program for students holding a BSc in 4 years.

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