

Smart Vehicles & Intelligent Transportation Systems

TAUGHT IN FRENCH



/ AIMS

The major aims at training engineers with a transversal background in Intelligent Transportation Systems (ITS) and smart vehicles to be capable of designing, developing, integrating and implementing intelligent systems for the transport sector, particularly in the fields of data, cyber security and decision support.

/ ACQUIRED SKILLS

The training of the ESEO engineer in the intelligent vehicles and transport systems major calls for many skills. As of the 4th year (E4), areas such as project management or scientific skills acquired in the core curriculum (E3) are further developed. Alongside this, students are made aware of the field of autonomous vehicle with courses dedicated to embedded electronics and systems, sensors and cybersecurity related domains.

/ CAREER OPPORTUNITIES

The ESEO generalist engineering diploma, with the major in smart vehicles and intelligent transport systems, opens up opportunities as an R&D engineer, test engineer, systems engineer and validation engineer. There is a wide range of job opportunities, mainly in the transportation sector, but also in the energy industry as advisors/consultants in design offices, or with leading equipment manufacturers and many more.

COURSE UNITS

/ SEMESTER 8

- **Smart Vehicles and Intelligent Transportation Systems Project:** 80h - 8 ECTS
- **Advanced Databases:** 14h - 1.5 ECTS
- **Network and IS Security:** 14h - 1.5 ECTS
- **Embedded Networks (CAN / FLEXRAY/ Ethernet):** 28h - 2 ECTS
- **Data and Statistics:** 14h - 1 ECTS
- **Introduction to Machine Learning:** 14h - 1 ECTS
- **Data Analysis:** 14h - 2 ECTS
- **Cybersecurity Applied to Embedded Systems:** 14h - 2 ECTS
- **Electronic Control Units and Embedded Software:** 28h - 2.5 ECTS
- **Sensors (radar, lidar, camera):** 28h - 2.5 ECTS
- **Human Machine Interface (HMI):** 14h - 1 ECTS
- **Project Management:** 28h - 1 ECTS
- **English:** 30h - 3 ECTS
- **Transversal Skills:** 14h - 1 ECTS

/ SEMESTER 9

- **Final Year Project:** 168h - 14 ECTS
- **Cloud Computing:** 28h - 2 ECTS
- **Optimisation and Decision Support:** 28h - 2 ECTS
- **ADAS (Advanced Driver Assistance Systems):** 42h - 3 ECTS
- **Real Time Operating System:** 28h - 3 ECTS
- **Mechatronics/Control of Multiphysical Systems:** 28h - 2 ECTS
- **IOT (infrastructure/inter vehicle communication and geolocation):** 42h - 3 ECTS

+ 1 selected Course Unit: 28h - 1 ECTS

To be chosen from the elective course units listed below:

- Neuroscience
- Video Games

