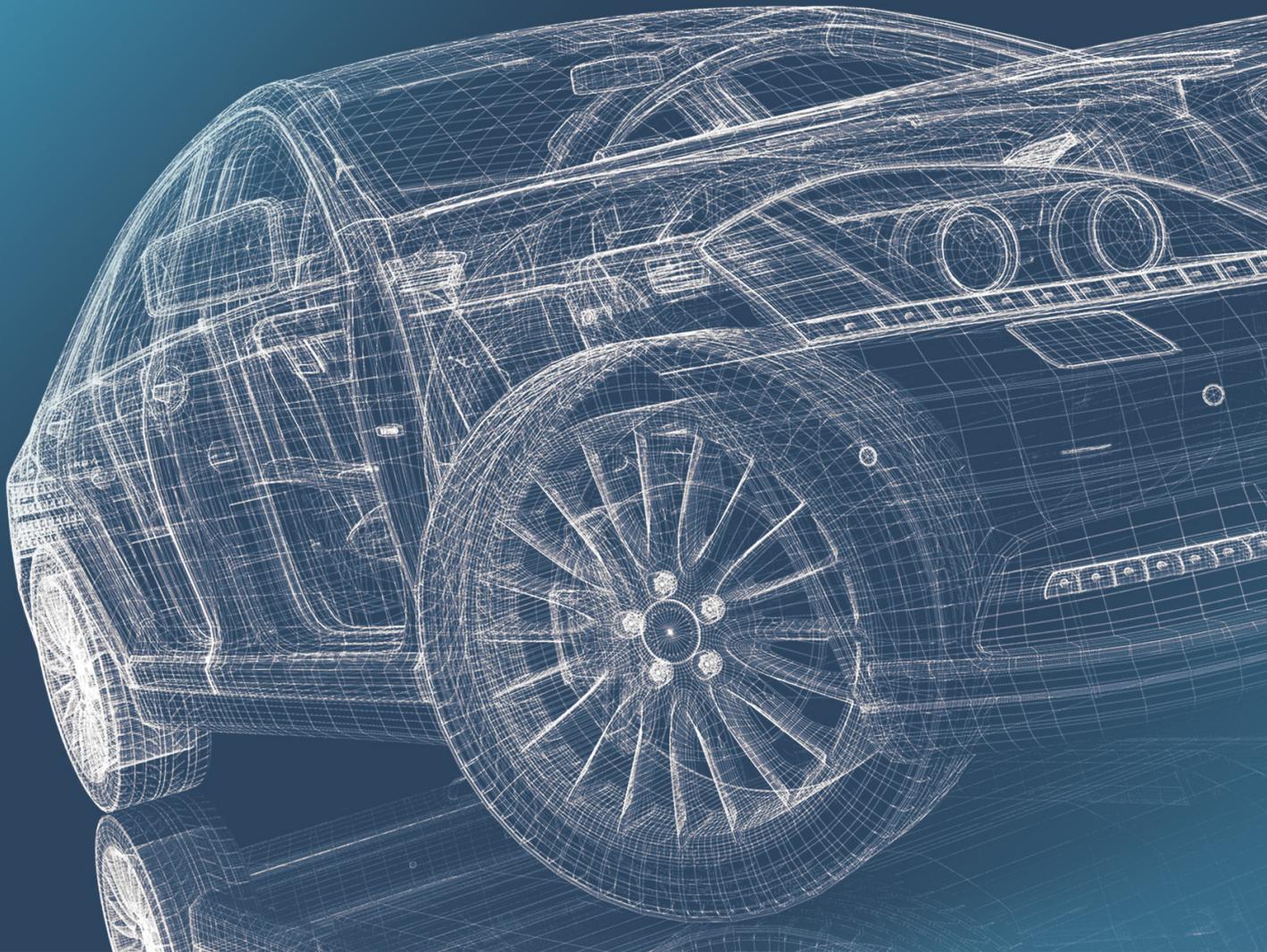


# Joint Master's Degree in **Sustainable Automotive Engineering**



# About **the Joint Master**

*The programme has been developed by a consortium of European partners, all with significant experience in the area of innovation and automotive engineering.*

The Green DRIVE Joint Master's Degree in Sustainable Automotive Engineering is a 2-year course of 120 credits. This innovative programme will cover many and varied aspects of future vehicle design, technology and management.

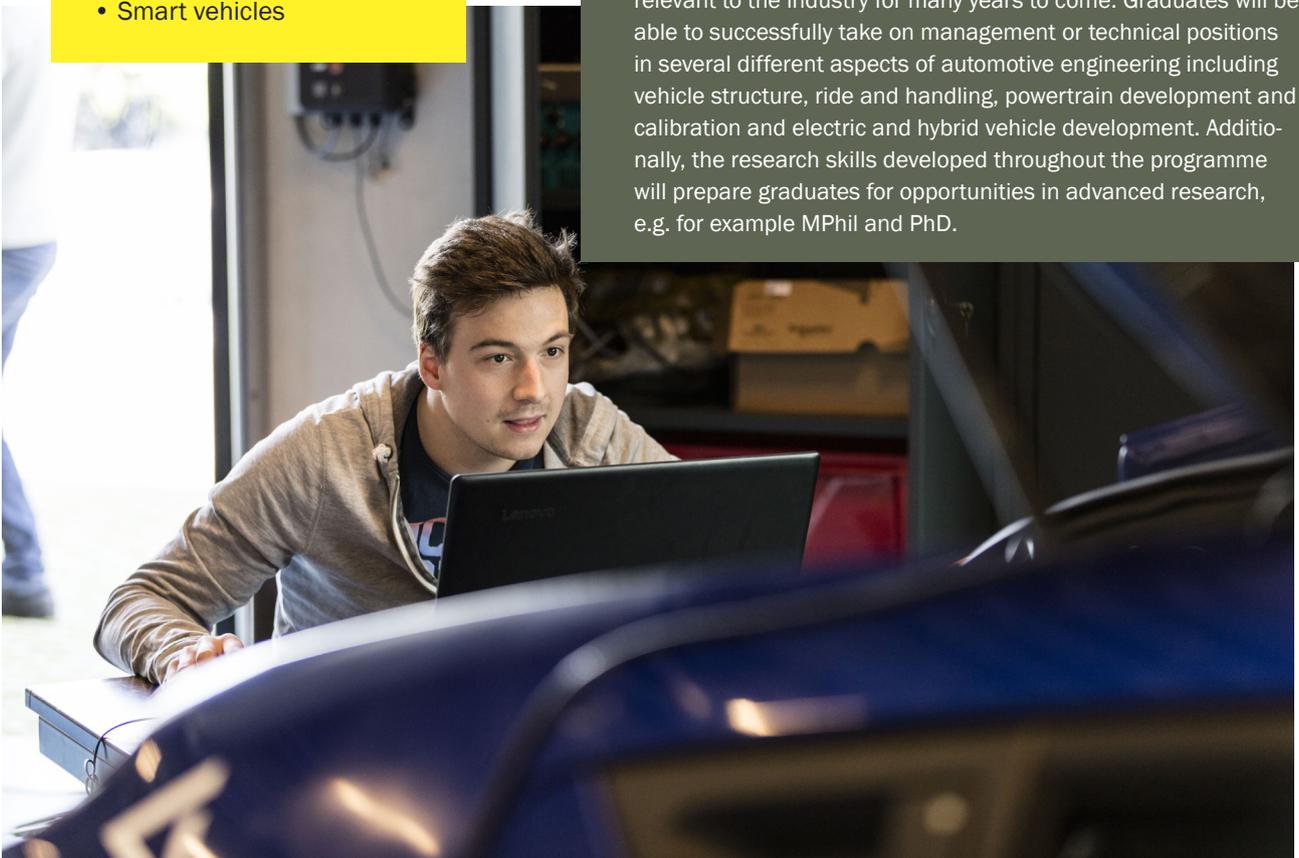
Innovative technology will be taught at component and at system levels. You will use simulation tools to solve advanced engineering problems. There will be courses on control and calibration, vehicle modelling, vehicle dynamics, lightweight structures, new sustainable materials and recycling, electro-mobility and intelligent transportation systems.

## **Topics include:**

- Engine technologies
- Electric and Hybrid electric powertrain
- Sustainable powertrains calibration and optimization
- Lightweighting
- Electromobility
- Smart vehicles

## **Career options**

The knowledge, skills and experience obtained throughout the programme lead to the development of successful automotive engineers who are immediately able to perform in industry. The technical focus on next generation automotive technologies ensures that the knowledge and skills developed will remain relevant to the industry for many years to come. Graduates will be able to successfully take on management or technical positions in several different aspects of automotive engineering including vehicle structure, ride and handling, powertrain development and calibration and electric and hybrid vehicle development. Additionally, the research skills developed throughout the programme will prepare graduates for opportunities in advanced research, e.g. for example MPhil and PhD.



# Programme **content**

## Year 1

### Term 1 > Sep-Dec 2018

#### University of Antwerp - Core courses 1

In Term 1 you will study core automotive courses (15 credits), together with soft skills (6 credits) such as entrepreneurship, presentation skills and intercultural communication.

- **Module 1:** Engine Technologies & Green Fuels
- **Module 2:** Vehicle Dynamics
- **Module 3:** Electric Power Systems in EV and HEV
- **Module 4:** Communication and Entrepreneurship

### Term 2 > Jan-Mar 2019

#### Loughborough University - Core courses 2

21 credits of automotive core courses

- **Module 5:** Powertrain calibration optimization
- **Module 6:** Sustainable Vehicle Powertrains

### Term 3 > Apr-Jul 2019

#### University of Deusto - Specialisation in ICT, human comfort and lightweight components

18 credits specialisation in ICT, human comfort and lightweight materials

- **Module 7:** In-vehicle Intelligent Transportation Systems
- **Module 8:** Vibroacoustic Comfort in Electric Vehicles
- **Module 9:** Lightweight Structures and Materials

#### or University of Bordeaux - Specialising in EV & HEV\* and transport systems

18 credits specialisation in electric and hybrid vehicles and transport systems

- **Module 10:** Design of EV/HEV Powertrain
- **Module 11:** Technical system analysis and modelling
- **Module 12:** Electro-mobility

## Year 2

### 6-month industrial internship / 6-month research thesis

During the second year of the Master you will work for 6 months either in industry or in a research laboratory. Our associated partners are leaders in the automotive field and you will be part of innovative and exciting projects.

After this period of work placement, you will have a further 6 months to work on your thesis in either one of the participating universities or in another approved institution or organisation.

\*EV : Electric Vehicle – HEV : Hybrid Electric Vehicle



# Partners



BELGIUM



The **University of Antwerp** is a young, dynamic and forward-thinking university. It integrates the assets of its historic roots with its ambition to contribute positively to society. The University conducts creative and innovative scientific research which strives for international excellence. It stimulates both basic and applied research and their valorisation. We foster diversity and offers our staff and students equal opportunities and maximum potential for personal development. The University of Antwerp ensures the quality (education - research) and sustainability of its activities. Its contact with students, staff and other stakeholders is constructive, respectful and open-minded.



UNITED KINGDOM



**Loughborough University** has an international reputation for excellence in teaching and research, strong links with industry, and unrivalled sporting achievement.



## Partners



### SPAIN



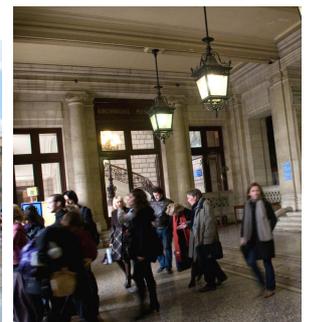
The **University of Deusto** in Bilbao has been training successful professionals for over 30 years in different engineering fields such as computing, electronics, automation, telecommunications and industrial organisation. To date, more than 9,000 engineering graduates from Deusto are working in companies and organisations worldwide.



### FRANCE



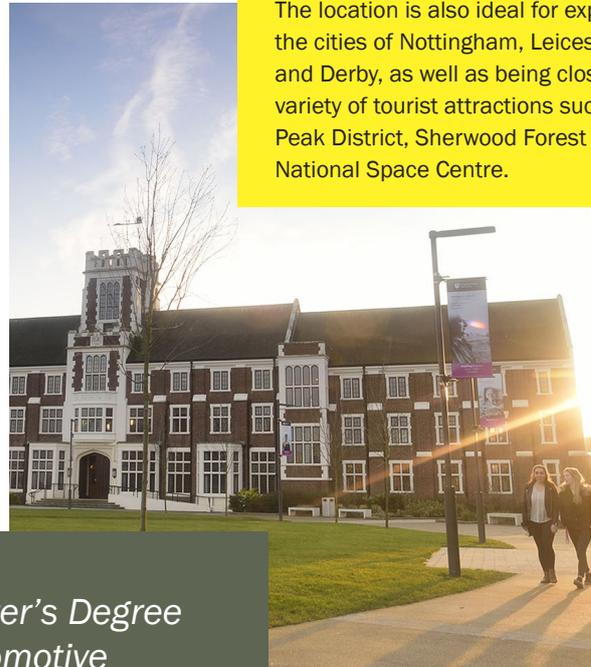
Ranked among the top universities in France, the **University of Bordeaux** is renowned for the quality of its academic courses and research. The University of Bordeaux was newly established on the 1st of January 2014, following the merger of three universities: *Université Bordeaux 1 Sciences et Technologies*, *Université Bordeaux Segalen* and *Université Montesquieu Bordeaux IV*. Bordeaux is a key player in the future of technology and industries (aeronautics, lasers, materials, health, agronomy etc.).



# Campus life



The University is based in the heart of the UK on the largest single site green campus. The town provides the student essentials, with plenty of open space, gardens, shopping and entertainment. The location is also ideal for exploring the cities of Nottingham, Leicester and Derby, as well as being close to a variety of tourist attractions such as the Peak District, Sherwood Forest and the National Space Centre.



The University has approximately 20,000 registered students, making it the third-largest university in Flanders, as well as 1,800 foreign students. It has 9 faculties, and is located on four campus locations in the city centre and in the south of the city.



*With our Joint Master's Degree in Sustainable Automotive Engineering, you will study in a minimum of 3 different countries in Europe during the 1<sup>st</sup> year. One or two more countries within or beyond Europe are possible in the 2<sup>nd</sup> year.*



The Bilbao campus was declared a site of historical interest in 2002. Several architecturally valuable buildings are found on the campus. The campus is located in the most cosmopolitan area of Bilbao, beside the river and surrounded by avant garde buildings boasting signatures of the world's most prestigious architects.



The University of Bordeaux campuses offer the academic community a pleasant working and living environment. The students on each site have access to a wide range of local services: information, career and employment guidance, university restaurants, student accommodation, libraries...



# Admission requirements

**To enter the Joint Master's a relevant Bachelor's degree (minimum 180 ECTS credits) in an appropriate area giving immediate access to a Master's programme in the home country is necessary.**

**Areas of study relevant to this programme include :**

- automotive engineering,
- mechanical engineering,
- electromechanical engineering,
- electronics/ICT with specialisation in automotive engineering,
- electronics and automation,
- industrial technology,
- industrial engineering,
- industrial electrical engineering.

## ENGLISH LANGUAGE PROFICIENCY

The programme is taught in English. Candidates are therefore required to demonstrate that they have a good command of English, both spoken and written, is necessary.

All applicants should have achieved the minimum score specified in one of the following language proficiency tests or similar:

- IELTS (academic version): 6.5 overall, with no sub-test less than 6.
- Internet-based TOEFL: 94 overall, with minimum scores of Listening 17, Reading 18, Speaking 20, Writing 17.
- PTE-A (Pearson Test of English-Academic): 60 overall, with no sub-test less than 51.
- UCLES First Certificate in English (FCE ),CEFR level B2.

## ADMISSION PROCEDURE AND DEADLINES

- Completed online application form and requested documents by 31 December 2017 at the latest.
- Further applications from candidates may be considered by the Academic Board up to 31 May 2018. Acceptance will be conditional on the availability of places.
- Candidates may be required to attend an interview (either face-to-face or via teleconferencing).
- Results before 30 March 2018.

## Contact

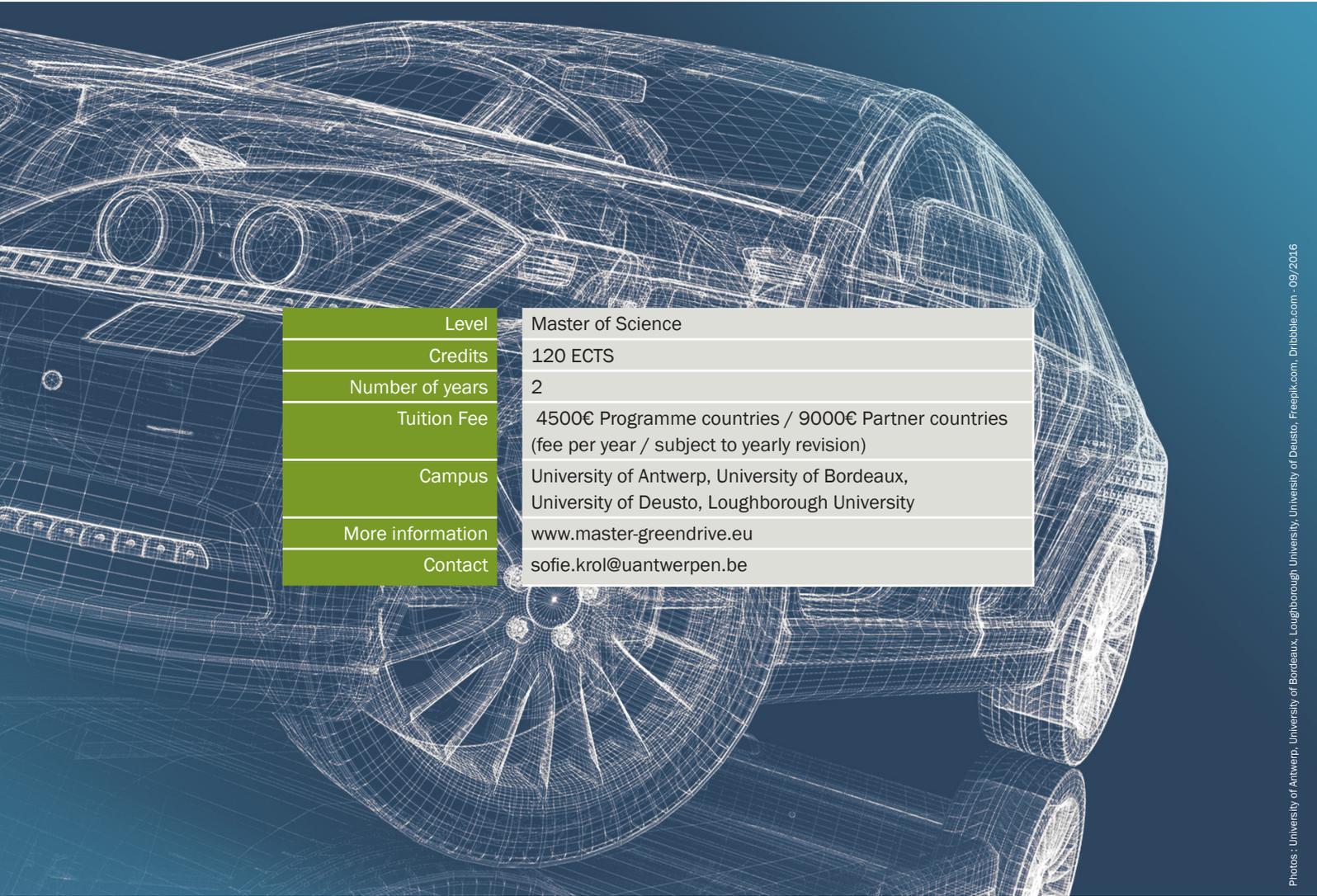
All documents or queries should be addressed to the Program Coordinator :

Ms Sofie Krol  
University of Antwerp  
Faculty of Applied Engineering  
Groenenborgerlaan 171  
2020 Antwerp - Belgium  
sofie.krol@uantwerpen.be

See more information  
on our website :  
[www.master-greendrive.eu](http://www.master-greendrive.eu)



M A S T E R  
P R O G R A M M E  
2 0 1 8



Level	Master of Science
Credits	120 ECTS
Number of years	2
Tuition Fee	4500€ Programme countries / 9000€ Partner countries (fee per year / subject to yearly revision)
Campus	University of Antwerp, University of Bordeaux, University of Deusto, Loughborough University
More information	<a href="http://www.master-greendrive.eu">www.master-greendrive.eu</a>
Contact	<a href="mailto:sofie.krol@uantwerpen.be">sofie.krol@uantwerpen.be</a>

Photos : University of Antwerp, University of Bordeaux, Loughborough University, University of Deusto, Freepik.com, Dribbble.com - 09/2016



ACADEMIC ASSOCIATED PARTNERS:

EIGSI Engineering School (France), Institut Teknologi Bandung (Indonesia), NMAM Institute of Technology (India), TH Köln (Germany), Cal State Los Angeles (USA), Madda Walabu University (Ethiopia), University of Ibadan (Nigeria), Kharkiv National Automobile and Highway University (Ukraine), ...

INDUSTRIAL ASSOCIATED PARTNERS:

Punch Powertrain, Continental, GESTAMP, RENAULT, AIC, Lamina, Renault, EDF, Phoenix Contact, Citeos, Delphi, Agoria, ...