



Automotive Mechatronics MSc

www.cranfield.ac.uk/automotivemechatronics



Automotive mechatronics is a rapidly-growing field, driven by the increasing complexity of modern vehicles and the need to improve fuel efficiency, emissions and safety. As a lifecycle activity, it involves the multidisciplinary integration of automotive mechanical and electronic systems, including sensors, actuators, microcontrollers and other components, to create intelligent and responsive systems that can adapt to changing conditions.

During the Automotive Mechatronics MSc, you will gain skills across automotive-specific mechanics, electronics, communication, advanced control and modelling, preparing you to respond to the clear demand in the sector for graduates with advanced skills and education in this specialised field.

Who is it for?

This course is designed for students with a solid engineering, mathematics or applied science undergraduate degree, who want to strive for a skill set which combines electrical, mechanical, digital control systems and physical system modelling.

Your career

This course will take you on to an excellent career as a qualified engineer of the highest standard in the field of Automotive Mechatronics, capable of contributing significantly to the increased demand for experts in the field of vehicle electrification. The broad application of automotive mechatronics opens a wide range of career opportunities within the automotive sector.

Expected career paths for graduates who have successfully completed the Automotive Mechatronics MSc include further research or employment within internationally-leading vehicle manufacturers and engineering consultancies and tier 1 suppliers to the automotive industry.

Companies that have recruited graduates of this course include:

- Airbus,
- Aston Martin Lagonda Ltd,
- Bosch Engineering GmbH,
- Cosworth Ltd,
- Mercedes AMG High Performance Powertrains Limited,
- Nissan Motor Corporation,
- Red Bull Powertrains,
- Tata Technologies,
- Volkswagen Commercial Vehicles.

Overview

Start date

October

Duration

One year full-time

Qualification

MSc

Study type

Full-time

Structure

Taught component (40%), Group project (20%), Individual research project (40%)

Campus

Cranfield campus

Entry requirements

We welcome applications from talented individuals of all backgrounds and each application is considered on its individual merit. Usually applicants must hold:

A UK lower second-class (2:2) undergraduate degree with honours, as a minimum, or equivalent international qualification.

Ideally, applicants will have studied in engineering, mathematics or an applied science subject.

Find information about equivalent qualifications in your country on our International entry requirements page.

Applicants who do not fulfil the standard entry requirements can apply for the Pre-master's course, successful completion of which will qualify them for entry to this course for a second year of study.

Fees

Please see www.cranfield.ac.uk/fees for detailed information about fee status, full-time and part-time fees as well as deposit requirements and bursary and scholarship information.

Course details

The Automotive Mechatronics MSc is made up of nine taught compulsory modules, which are generally delivered from October to March. During the first term, you will take modules in core automotive subjects, such as vehicle dynamics, design, vehicle performance, powertrain technology and vehicle structures.

In the second term, you will undertake a bespoke programme of study geared towards a greater understanding of physical systems, advanced control system design and rapid prototyping.

Modules

Keeping our courses up-to-date and current requires constant innovation and change. The modules we offer reflect the needs of business and industry and the research interests of our staff. As a result, they may change or be withdrawn due to research developments, legislation changes or for a variety of other reasons. Changes may also be designed to improve the student learning experience or to respond to feedback from students, external examiners, accreditation bodies and industrial advisory panels.

To give you a taster, we have listed below the compulsory and elective (where applicable) modules which are currently affiliated with this course. All modules are indicative only, and may be subject to change for your year of entry

Compulsory modules

All the modules in the following list need to be taken as part of this course.

Automotive Mechatronics Induction

Vehicle Design, Propulsion and Performance

Automotive Control and Simulation

Vehicle Electrification and Hybridisation

Vehicle Dynamics

Mechatronics Modelling for Vehicle Systems

Advanced Control and Optimisation

Embedded Vehicle Control Systems

Vehicle Control Applications

"I believe Cranfield was the best choice for me because automotive mechatronics is the future of the automotive industry. We work in different principles like electrified vehicles, autonomous vehicles and lots more that cover all automotive aspects. I have really enjoyed all of the modules, and am looking forward to writing my thesis – it's really important that Cranfield provides a company-based thesis for our future."

Andreas Manthopoulos

current student, Automotive Mechatronics MSc

Accreditation

The Automotive Mechatronics MSc is accredited by The Institution of Mechanical Engineers (IMechE) and Institution of Engineering and Technology (IET) on behalf of the Engineering Council as meeting the requirements for further learning for registration as a Chartered Engineer (CEng).



For more information contact our Admissions Team:
T: +44 (0)1234 758082

Visit campus for yourself and meet current students and our academics at our next Open Day:
www.cranfield.ac.uk/openday

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Every effort is made to ensure that the information provided here is correct at the time it is published. Please check our website for the latest information.