



Automotive Mechatronics

MSc

Automotive Mechatronics is a life-cycle activity that involves the multidisciplinary integration of physical systems with electronic digital control. You will gain skills and knowledge across electrical, mechanical, digital control systems, physical system modelling and differentials. The MSc in Automotive Mechatronics is a recently established course, developed to respond to the clear demand in the sector for graduates with advanced skills and education in the specialised field. The significant increase in the application of mechatronics has created an industry need for this Masters degree.

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. We have extensive strategic links with the automotive industry and key players in the forefront of automotive research and development. This high level of engagement with industry through short courses, consultancy and research makes our graduates some of the most desirable in the UK and abroad for companies to recruit. We are well located for visiting students from all over the world, and offer a range of facilities to support your studies.

Course structure

This course is composed of compulsory taught modules, a group project and an individual research project.

Individual project

After having gained an excellent understanding of methods and applications, you will work fulltime (May to September) on an individual research project. This research project will allow you to delve deeper into an area of specific interest, taking the theory from the taught modules and joining it with practical experience.

Group project

You will undertake a substantial group project between October and March, which focuses on designing and optimising a particular vehicle system/assembly. This is designed to prepare you for the project-based working environment within the majority of the automotive industry.

Future career

The broad application of automotive mechatronics opens a wide range of career opportunities within the automotive sector. This course takes you on to a career as a qualified engineer of the highest standard in this field, capable of contributing significantly to the increased demand for experts in field of vehicle electrification. Expected careers paths for graduates who have successfully completed the MSc in Automotive Mechatronics include employment with internationally leading vehicle manufacturers, engineering consultancies and tier 1 suppliers to the automotive industry. Graduates might also go on to pursue further research opportunities.

Example modules

Modules form only part of the course, with the project(s) and theses making up the balance. Please see the course structure for details.

The list below shows the modules offered in the 2019-20 academic year, to give you an idea of course content. To keep our courses relevant and up-to-date, modules are subject to change – please see the webpage for the latest information.

Compulsory:

- Advanced Control and Optimisation,
- Automotive Control and Simulation,
- Automotive Mechatronics Induction,
- Embedded Vehicle Control Systems,
- Mechatronic Modelling for Vehicle Systems,
- Vehicle Control Applications,
- Vehicle Dynamics,
- Vehicle Electrification and Hybridisation,
- Fundamentals of Road Vehicle Engineering.

Duration:

MSc: Full-time - one year.

Start date:

October.

Location:

Cranfield Campus.

Entry requirements:

A first or second class UK Honours degree in a relevant subject or an equivalent international qualification or relevant work experience.

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

Please visit www.cranfield.ac.uk/entryrequirements for more information. Alternatively, you may be eligible for our Pre-Master's Engineering programme.

ATAS Certificate:

Students requiring a visa to study in the UK may need to apply for an ATAS certificate to study this course.

Contact details

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For further information please visit

www.cranfield.ac.uk/automotivemechatronics