Autonomous Vehicle Dynamics and Control

MSc/PgDip/PgCert

The global market for aerial, ground, and marine autonomous vehicles has grown rapidly due to the advent of drones and driverless cars. Defence, aerospace, automotive, and marine industries seek graduates conversant in key aspects of autonomy including: dynamics and control, guidance and navigation, decision making, sensor fusion, data and information fusion, communication and networking.

Durable and transferrable skills are the foundation of this unique MSc course whose content has been based on advice from the Industrial Advisory Board, comprising industrial representatives from big primes to small and medium-sized businesses.

Course structure

The MSc in Autonomous Vehicle Dynamics and Control consists of two equally weighted components: taught modules and an individual research project.

Individual project

Our industry partners sponsor individual research projects allowing you to choose a topic that is commercially relevant and current. Topics are chosen during the first teaching period in October and you begin work during the second half of the MSc course (May - August).

Future career

The industry-led education makes Cranfield graduates some of the most desirable all over the world for recruitment by companies competing in the autonomous vehicle market including:
BAE Systems,
Defence Science and Technology Laboratory,
MBDA,
Other companies from our Industrial Advisory Board.

Graduates from this course will be equipped with the advanced skills which could be applied to the security, defence, marine, environmental and aerospace industries. This approach offers you a wide range of career choices as an autonomous systems engineer, design engineer or in an operations role, at graduation and in the future. Others decide to continue their education through PhD studies available within Cranfield University or elsewhere.

Example modules

Modules for each option vary, please see individual course option pages for more information.

Compulsory:
• Artificial Intelligence for Autonomous Systems,
• Autonomous Vehicle Control Systems,
• Guidance and Navigation for Unmanned Aircraft Systems (UAS),
• Introduction to UAS,
• Logic and Automated Reasoning,
• Sensor Fusion,
• UAS Dynamics and Control,
• UAS Modelling and Simulation.

Duration:
MSc: Full-time one year;
PgCert: Full-time up to one year;
PgDip: Full-time up to one year.

Start date:
October.

Location:
Cranfield Campus.

Entry requirements:
A first or second class UK Honours degree in engineering, or an equivalent degree in engineering, engineering science, physics, applied mathematics or other appropriate applied science.

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.

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

T: +44 (0)1234 758083
E: studyaerospace@cranfield.ac.uk

For further information please visit
www.cranfield.ac.uk/autonomousvehicledc