



Virtual Prototyping for Vehicle Structures MSc

www.cranfield.ac.uk/virtualprototyping

In a rapidly-evolving automotive sector, virtual prototyping for vehicle structures is an essential part of the development process of innovative vehicle designs.

The Virtual Prototyping for Vehicle Structures MSc has been developed to provide the automotive and motorsport industry with high-calibre stress analysts that are equipped with the necessary skills to meet the demands of the structures and CAE department.

Through hands-on experience with advanced simulation tools and industry-leading techniques, students will be inspired to push the boundaries of innovation to contribute to the development of smarter, safer and more efficient vehicles. The balance between lab experience at the Cranfield Impact Centre and exposure to advanced simulation techniques will provide a comprehensive understanding of both theoretical and practical aspects to analyse prototypes in a virtual environment and refine their concepts through testing.

Who is it for?

The Virtual Prototyping for Vehicle Structures MSc is suitable for graduates in engineering, physics or mathematics and will prepare you for a career in this exciting field, from chassis, suspension design to crash analysis and NVH.

Your career

Our postgraduate Virtual Prototyping for Vehicle Structures course provides you with the necessary skills for a career in the CAE and structures departments of automotive and motorsport companies.

Cranfield's graduates have an excellent employment record and they have secured jobs in the vehicle structures and body CAE departments of leading automotive and motorsport companies.

Some of our graduates decide to continue their education through PhD studies with Cranfield University.

Graduates of this MSc can aspire to roles such as:

- Structures Analyst,
- CAE Engineer,
- Structural Simulation Engineer,
- Vehicle Design Engineer,
- Crash Safety Engineer.



Overview

Start date

October

Duration

One year full-time, two-three years part-time

Study type

Full-time / part-time

Qualification

MSc

Structure

Taught modules 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 a related engineering or applied science discipline.
- Find information about equivalent qualifications in your country on our [International entry requirements page](#).

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

This course comprises eight compulsory taught modules that are assessed via a combination of written exams and individual coursework assignments, a group project and an individual research project.

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:

- **Principles of Automotive Engineering and Vehicle Performance.**
- **Experimental Mechanics.**
- **Vehicle Passive Safety.**
- **Vehicle Dynamics - Modelling, Simulation and Performance.**
- **NVH and Durability.**
- **Lightweight Materials and Manufacturing for Automotive Applications.**
- **Simulation of Composite Structures.**
- **Automotive Structures, Simulation and CAE.**

Course modules

Module to be taken as part of this course but will not count towards your award:

- **Automotive Engineering Induction.**
- **Research Methods.**

For more information contact Admissions:

T: +01234 758082

[Enquiry form.](#)

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.