



Computational Fluid Dynamics MSc

www.cranfield.ac.uk/Compfluidynamics

There is an increasing global demand for computational fluid dynamics (CFD) specialists with practical and technical knowledge.

This course, designed to reflect the wide applications of computational fluid dynamics, will enable you to gain the knowledge and appreciation necessary for a strong foundation in a career in this exciting engineering discipline.

You will learn to understand, write and apply CFD methods across a broad range of fields, from aerospace, multi-phase flow and heat transfer to microflows, bio-medical flows and fluid-structure interaction problems.

Who is it for?

This course is designed to meet the education needs of graduates and professional engineers who are looking to kick-start an industrial or research career in the ever-evolving field of computational fluid dynamics. It bridges the gap between the introductory level of undergraduate courses and the applied expertise acquired by engineers using CFD in industry.

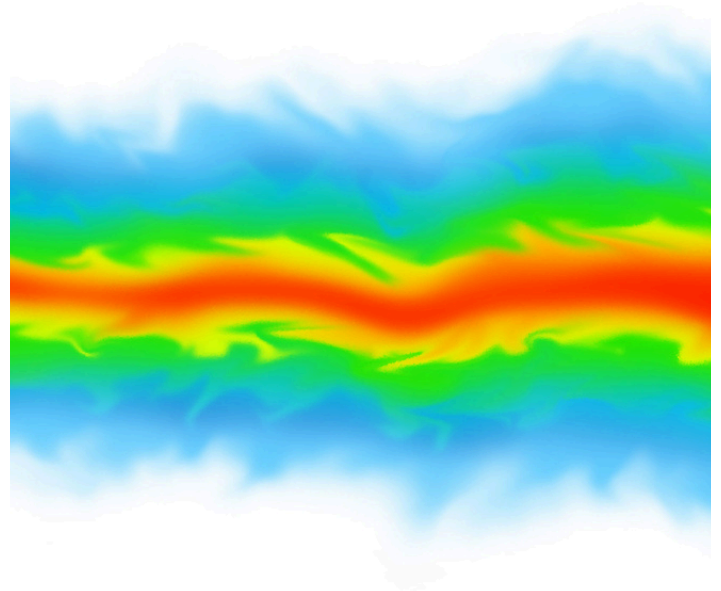
You will gain the knowledge and practical skills to apply CFD methods, necessary for a strong foundation for a career in this exciting engineering discipline.

Your career

Strategic industrial links ensure that the course meets the needs of the organisations competing within the computational sector, therefore making our graduates some of the most desirable in the world for companies to recruit.

An increasing demand for CFD specialists with in-depth technical knowledge and practical skills within a wide range of sectors has seen our graduates employed in a range of roles, including:

- CFD Tools and Method team leader (F1),
- CFD Aero Application Engineer (F1),
- Aerodynamics Engineer,
- Application Engineer - Aerospace and Defence,
- Assistant Chief Engineer,
- Automation Developer,
- CFD Engineer,
- CFD Simulation Specialist,
- Data Analyst,
- Data Science Consultant,
- Digital Product Owner,
- Flight Physics Capabilities Engineer,
- Fluids Industry Consultant,
- Hydro Specialist,
- Operational Meteorology Technician,
- Principal Consultant,
- Principal Technology Engineer,
- Simulation Engineer CFD,
- Thermo-Fluids Engineer,
- Vehicle Aerodynamicist (CFD).



Overview

Start date

October

Duration

Full-time: MSc - one year; Part-time: MSc - up to three years

Delivery

Taught modules 40%, individual research project 40%, group project 20%

Qualification

MSc

Study type

Full-time/ part-time

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

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:

- **The role of experimental data in CFD.**
- **Data Analysis and Uncertainty.**
- **Grid Generation/CAD.**
- **Introduction to Fluid Mechanics and Heat Transfer.**
- **Numerical Methods and High Performance Computing.**
- **Numerical Modelling for Compressible Flows.**
- **Numerical Modelling for Incompressible Flows.**
- **Turbulence Modelling.**

"Studying for this MSc has opened up different opportunities within my current company, namely, participating in various investigations that required the use of CFD software to help understand complex fluid motion phenomena.."

William Morris

Engineer, Moog Controls

Accreditation

The Computational Fluid Dynamics MSc is accredited by the Institution of Mechanical Engineers (IMechE) and the Royal Aeronautical Society (RAeS) on behalf of the Engineering Council as meeting the requirements for further learning for registration as a Chartered Engineer (CEng). Candidates must hold a CEng accredited BEng/BSc (Hons) undergraduate first degree to show that they have satisfied the educational base for CEng registration.



ATAS clearance

This course requires Academic Technology Approval Scheme (ATAS) clearance.

ATAS is run by the UK Government's Foreign, Commonwealth and Development Office (FCDO) and applies to international students, except exempt nationalities, who need a visa to study in the UK. Further information can be found in our [Application guide](#).

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.