Aircraft Engineering

MSc/PgDip/PgCert

With a projected demand for 27,000 new civil airliners by 2030, the industry faces a shortfall in postgraduate level engineers to meet future industry needs. Aircraft engineers need a combination of technical and business skills for today's aerospace engineering projects. This course will broaden your understanding of aircraft engineering and design subjects and provide you with a strong foundation for career development in technical, integration and leadership roles.

Course structure

The course consists of three elements: taught modules, a group design project and an individual research project.

Individual project

The individual research project allows you to delve deeper into an area of specific interest of your choice, and you are encouraged to select a project that is of relevance to your sponsoring company. You will complete the individual project during year three of your studies.

Group project

The group project is undertaken throughout year two of your studies and provides a wealth of learning opportunities. You will work together on a significant design project, progressing from concept to hardware.

Future career

This course will provide you with the tools and experience to help enhance your career opportunities in the aerospace industry, enabling you to progress further in your present discipline, or move into other specialist or integration roles. Networking with students from different backgrounds is valuable to gain an appreciation of how other companies work. This course can be used for Chartered Engineer status, which can result in new career opportunities for the future.

Example modules

The MSc comprises of Taught modules 40%, Group project 30% and Individual research project 30%.

Compulsory:
- Initial Aerospace Vehicle Design,
- Major Component Design and Manufacture,
- Manufacturing,
- Methodologies for Integrated Product Development,
- Tools for Integrated Product Development.

Elective:
- Aircraft Loading Actions and Aeroelasticity,
- Aircraft Performance for Aircraft Engineering,
- Airframe Systems,
- Design, Durability and Integrity of Composite Aircraft Structures,
- Detail Stressing,
- Fatigue, Fracture Mechanics and Damage Tolerance,
- Finite Element Analysis,
- Flight Dynamics Principles for Aircraft Engineering,
- Introduction to Aircraft Structural Crashworthiness,
- Introduction to Avionics.

Duration:
MSc: part-time - up to three years,
PgDip: part-time - two years,
PgCert: part-time - two years

Start date:
February

Location:
Cranfield Campus

Entry requirements
A first or second class UK Honours degree, or equivalent, in an engineering discipline. We also invite applications from professionals with HNC/HND qualifications if supported by substantial 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.

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/aircrafteng