This course covers how to improve and develop materials for aviation applications, including materials for airframe, aeroengine and the increased use of smart and functional materials. Plus the development of new materials, improvement of current materials, and application in new and novel structures. There is a need for engineering graduates with specialist skills to develop new materials for next generation aircraft and the future aerospace industry. During this course you will cover the improvement and development of materials for aviation applications, including materials for airframe, aeroengine and the increased use of smart and functional materials. The course combines Cranfield’s long-standing expertise for delivering high-quality Masters’ programmes in both aerospace and materials. Our courses receive strong support from the global aerospace industry, both the Original Equipment Manufacturers (OEM) such as Airbus and Rolls-Royce, as well as their tiers of supplier. There is a strong emphasis on applying knowledge in the industrial environment and all teaching is in the context of industrial application.

Course structure
The Aerospace Materials programme is made up of three components: a formal component comprising taught modules (40%), Group Project (20%) and Individual Thesis Project (40%).

Individual project
The individual thesis project, usually in collaboration with an external organisation, offers students the opportunity to develop their research capability, depth of understanding and ability to provide materials technology and engineering solutions to real problems in aerospace.

Group project
The group project experience is highly valued by both students and prospective employers. Teams of students work to solve an industrial problem. The project applies technical knowledge and provides training in teamwork and the opportunity to develop non-technical aspects of the taught programme. Part-time students can prepare a dissertation on an agreed topic in place of the group project.

Future career
This qualification takes you on to senior engineering positions in the aerospace industry with a focus on exploiting next generation materials. Many graduates find employment with one of their project sponsors.

Course modules
The MSc comprises of compulsory modules consisting of lectures, practical work and site visits.

Compulsory:
- Introduction to Materials Engineering,
- Aerospace Materials, Properties and Processing,
- Composites Manufacturing,
- Functional Materials,
- Failure of Materials and Structures,
- Surface Science and Engineering,
- Finite Element Analysis,
- Material Selection.

Duration:
- MSc: Full-time - one year, Part-time - up to three years,
- PgDip: Full-time - up to one year, Part-time - two years,
- PgCert: Full-time - up to one year, Part-time - two years.

Start date:
- Full-time: October. Part-time: throughout the year.

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.

Please visit www.cranfield.ac.uk/entryrequirements for more information. 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 you 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: studymanufacturing@cranfield.ac.uk

For further information please visit www.cranfield.ac.uk/courses/taught/aerospace-materials

Every effort is made to ensure the information on this sheet is correct at the time it was produced in October 2018. Please check the web pages for the latest information.