This course provides a fundamental understanding of materials’ properties, their processing and computer based design procedures, which are essential for product commercialisation from the concept phase. It also includes the development of new materials and the improvement and application of current materials in new and novel structures. This course is suitable for graduates with science, applied science, engineering or related degrees keen to pursue careers in the development or exploitation of materials; graduates currently working in industry keen to extend their qualifications; or individuals with other qualifications who possess considerable relevant experience. The students have several opportunities to make use of Cranfield’s impressive facilities through practical project work. Facilities include the most comprehensive high-temperature coating test facilities to be found in a University, some of the best equipped precision machining laboratories in Europe, state-of-the-art clean rooms and an unparalleled welding laboratory.

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

Individual project
Students select the individual project in consultation with the Course Director. The individual project provides students with the opportunity to demonstrate their ability to carry out independent research, think and work in an original way, contribute to knowledge and overcome genuine problems.

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 a wide range of careers involving materials, with responsibilities in research, development, design, engineering, consultancy and management in industries including aerospace, automotive, medical, sports, food and drink processing, chemical processing and power generation.

Course modules
The taught programme consists of compulsory modules.

Compulsory:
- Introduction to Materials Engineering,
- Additive and Subtractive Manufacturing Technologies
- Composites Manufacturing for High Performance Structures,
- Failure of Materials and Structures,
- General Management,
- Finite Element Analysis,
- Materials Selection,
- Surface Science and Engineering.

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/advanced-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.