Cyber-Secure Manufacturing

MSc/PgDip/PgCert

Developed in response to growing threats posed by Industry 4.0 and the development of Smart Factories. This course has been developed for manufacturing engineers/managers to help protect manufacturing systems and machines against cyber threats. This course develops the expertise of graduates interested in pursuing careers tackling cybersecurity challenges and technologies in manufacturing. Developed with academics and industry from manufacturing and the defence and security sector to address the current career demand in Internet of Things (IoT), Big Data, Cloud Computing and Cybersecurity it combines Cranfield's long standing expertise for delivering highquality Masters programmes in the manufacturing, and security and defence sectors

Course structure

The course consists of core modules, including a group project, plus an individual research project.

Individual project

The individual thesis project, usually in collaboration with industry, offers students the opportunity to develop their research capability, depth of understanding and ability to provide solutions to real problems in manufacturing production systems.

Group project

The group project experience is highly valued by both students and prospective employers and is usually in collaboration with industry. It provides students with the opportunity to take responsibility for a consultancy-type project, finding solutions to real-life challenges in manufacturing informatics.

Future career

Cranfield's applied approach and close links with industry mean 97% of our graduates find jobs relevant to their degree or go on to further study within six months of graduation. Our careers team support you while you are studying and following graduation with workshops, careers fairs, vacancy information and one-to-one support. On successful completion of this course graduates should have a diversity of job opportunities, mainly in the following job markets; Manufacturing informatics, Manufacturing engineering, Cybersecurity, IoT (Internet of Things), Cloud computing, Big data analysis.

Example modules

Modules form only part of the course, with the project(s) and theses making up the balance. Please see the course structure for details.

The list below shows the modules offered in the 2019-20 academic year, to give you an idea of course content. To keep our courses relevant and up-to-date, modules are subject to change – please see the webpage for the latest information.

Compulsory:ing and Practice in Manufacturing
- Cybersecurity of Machine Tool Systems
- Data Analytics for Cyberattack Detection
- Hardware-Level Cyber Security
- Industrial Cybersecurity Challenges and Strategies
- IoT Security and Systems
- Manufacturing Systems Engineering,
- Operations Management,
- Secure Cloud based Manufacturing.

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:
October.

Location:
Cranfield Campus.

Entry requirements:
A first or second class UK Honours degree or equivalent in computer/computing/information science, or the international equivalent of these qualifications. Other relevant qualifications, together with significant experience, may be considered. Manufacturing, aerospace, transportation, electronics or other engineering graduates who wish to develop their careers in these sectors.

Suitable for graduates with computer/computing/ information science degrees who are interested in pursuing a career in informatics and manufacturing sectors. Please contact us if you do not meet our formal entry requirements. More information can be found at www.cranfield.ac.uk/entryrequirements.

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/csm