

Systems Engineering

Making sense of complexity



Cranfield
University

Cranfield Masterships[®]
Master's level apprenticeships

Strengthen your systems engineering capabilities

The Systems Engineer (Degree) Apprenticeship is a unique opportunity to sponsor your early and mid-career employees on a highly-regarded postgraduate programme to develop their systems engineering competence, whilst actively taking forward your organisation's capabilities.

Who is it for?

The course is ideally suited for companies who want to accelerate the development and improve retention of current systems engineers by enhancing their postgraduate development and training, using contributions to the Apprenticeship Levy.

The Systems Engineer (Degree) Apprenticeship is a blended vocational and academic course at master's level. It will develop rounded systems engineers at The International Council on Systems Engineering (INCOSE) practitioner level with the ability to apply for CEng.

Benefits to your learners

This apprenticeship links to the Master's in Systems Engineering, and has relevance across numerous industry sectors.

Systems Engineers focus on solving some of the most complex engineering challenges. They do this by collecting and organising all the information needed to understand the whole problem, exploring it from all angles, and then finding the most appropriate solution. SE(D)A supports a flexible learning pathway with a selection of modules to broaden or deepen experience.

The apprenticeship will benefit Systems Engineering practitioners in industries as diverse as rail, infrastructure, power, automotive and health. The approaches taught enable the understanding and harnessing of complexity across domains.

Benefits to your organisation

Past and present students often tell us that the Systems Engineering education they gain with us changes the way they look at the world. It gives them vastly improved insight into the issues they meet in their daily work, thus helping them to avoid the damaging and costly mistakes that are often made.

As an employer you will strengthen your engineering and management capabilities, improve retention and empower a network of individuals to work on projects directly relevant to your organisation with the support of a world-class university. With industry co-operation, the course provides attendees with relevant learning en route to demonstrating competency against the SE(D)A Standard, and creating individual learner competency profiles linked to the INCOSE framework.

Key information



Part-time

Up to three years



Location

Cranfield



Delivery

Blended-learning



Entry requirements

See course page on our website
www.cranfield.ac.uk/systemsengineering



Start date

January



Fees

See www.cranfield.ac.uk/systemsengineering



Awards

PgDip, MSc



Cohort size

Approximately 30
(this is an indication of the cohort make-up for the entry year 2018-2019.)



Course details

The Systems Engineering course has been mapped against Systems Engineer (Degree) standard. The MSc can be fully funded via the Apprenticeship Levy.

Systems Engineer (Degree) Apprenticeship

200 credits

Mastership

PgDip

120 credits

MSc

80 credits

Compulsory modules

Introduction to Systems and Systems Engineering 10 credits

Human Systems Engineering 10 credits

Research-based thesis 80 credits

Enterprise Management 10 credits

Dependability and Resilience 10 credits

Problem Analysis and System Definition 10 credits

Simulation in the Systems Engineering Lifecycle 10 credits

System Design and Realisation 10 credits

Software and Cyber Systems Engineering 10 credits

Problem Analysis and System Definition Workshop 10 credits

Megaproject Systems 10 credits

Research Methods 10 credits

System Design and Realisation Workshop 10 credits



Industry advisory board

The Industrial Advisory Board helps to shape the content and direction of the course in order to meet the changing needs of industry.



Cranfield University

Cranfield is an exclusively postgraduate university that is a global leader for education and transformational research in technology and management. We are focused on the specialist themes of aerospace, defence and security, energy and power, environment and agrifood, manufacturing, transport systems, and water.

Home to many world-class, large-scale facilities which enhance our teaching and research, we graduate 4,500 postgraduate students each year, with over half studying part-time. We have the largest number of engineering and technology postgraduates in the UK and award over five percent of the UK's engineering and technology PhDs each year.

We employ over 1,500 staff, making our staff-to-student ratio one of the best for any university in the UK and the world (one member of academic staff to every five students).

We work closely with business, industry and government across the world. Through our industry partnerships, applied research projects and our executive education and professional development programmes, we currently work with over 1,500 companies and organisations.

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