Materials Process Engineer Master's Degree Apprenticeship

Developing technical and operations specialists in materials processing

Master’s-level apprenticeships

www.cranfield.ac.uk/mpe

The Materials Process Engineer Masters Degree Apprenticeship addresses the knowledge, skills and behaviour requirements of the Materials Process Engineer degree apprenticeship standard (Level 7). The Materials Process Engineer course has been developed specifically to meet the high demand for technical specialism, combined with commercial and problem-solving skills applicable to a variety of thermal process-related industries.

The course offers a unique opportunity to sponsor employees to develop and deliver the clustering of "soft" and traditional skills which support the drive to productivity and business improvements in a specialist non-integrated degree apprenticeship.

Developing your workforce

The course is about developing and upskilling your current engineers to become leaders and managers of the future. The programme is applicable across a broad range of industries (coating, heat treatment and surface treatment technologies) where safe, reliable and long-term stability of manufacturing operations is a key business driver.

Developed in collaboration with industry, trade bodies, associations and the Institute of Apprenticeships, the course meets the Level 7 Materials Process Engineer standard.

Benefits to your learners

We aim to address the need for highly trained individuals involved in controlling and enhancing the operational performance of complex manufacturing processes and support services. One of the outputs of the programme is to deliver individuals with leadership skills to support a culture of continuous improvement.

They will acquire skills in:

- Risk and uncertainty management.
- Identification of innovation opportunities.
- Engineering and technology including operations and asset management.
- Design and planning for through-life cost.
- Methods of manufacture for cost reduction and process improvement.
- New product development and manufacturing operations.
- Solving industry problems to generate business benefit.

The course enhances your staffs' capabilities and puts them on the path towards Chartered Engineer status (not within the Apprenticeship Levy).

Benefits to your organisation

As an employer, you will strengthen your engineering and manufacturing capabilities, improve staff retention and empower a network of skilled individuals. The skills gained by your employees on the course are expected to contribute to increased competitive advantage for your organisation. Experienced industry professionals and industry-active academics acting as coaches and mentors will ensure that learning is focused on industry-relevant problems generating business benefit throughout the learning process.

The course has been designed with the needs of the employer in mind to allow maximum benefit from learning with minimum time away from the working environment.

This course is open to delegates from all organisations involved in thermal process-related fields including coating, heat treatment and surface treatment processes. These specialist areas are found in a wide range of industries where materials and their process technologies are essential including the medical, defence, energy, oil and gas, aerospace and nuclear sectors.

Course structured to allow **minimum time away from the working environment**

Designed to **meet the training needs** of industry

Project conducted in your workplace solving **real-life challenges**

Develop improved **process** capability and business metrics

Modules

- Introduction to Sustainable Manufacturing
- Operations Management
- Operations Analysis
- General Management
- Lean product Development
- Specialist Option – Materials Process Engineering
- Optimisation of Manufacturing Operations
- Dissertation

- Individual Research Project
- End Point Assessment

Course details

Start date
October

Cohort information
Typical cohort age 30-50

Duration
Two-three years part-time

Delivery
Typically delivered over two years part-time comprising of eight modules. Followed by a project and End Point Assessment

Location
Cranfield campus

Fees
£17,000 Eligible for apprenticeship funding

Award
MSc

This MSc is accredited by:

Institution of MECHANICAL ENGINEERS

ROYAL AERONAUTICAL SOCIETY
CORPORATE PARTNER

The University has applied for this course to accredited by the Engineering Council and at the time of publication, a decision has yet to be made. Accreditation is undertaken by one or more of the professional engineering institutions (PEIs) that are licensed by the Engineering Council, to its standards set out in UK-SPEC. A degree may be accredited by more than one PEI, particularly where it spans several engineering disciplines. You can check the accreditation status of this, or any other degree programme, at https://www.engc.org.uk/acad

Visit the **course web page** on our website for further details.

"The Process Engineering Level 7 Master's programme has been designed to align academic excellence with business management. It provides engineers with all the tools and practices to become the next manufacturing leaders and drive UK PLC through the next decade and beyond. It links a strong academic approach with real-time industrial problems and case studies and enables students to develop skills faster than in a normal operational environment."

Andy Williams,
Senior Fellow, Chromalloy UK

Cranfield University works with over

1,500 businesses and governments based in over 40 countries

These organisations include:

DOOSAN Babcock

I·M3 Institute of Materials, Minerals & Mining

MTA

SAINT-GOBAIN

TATA MOTORS EUROPEAN TECHNICAL CENTRE

"This course allows for a structured progression to master's level for those in our industry who are seeking to learn the critical decision-making steps and analytical techniques required for effective project management whilst leading a product introduction or process improvement in a casting or foundry environment. Our castings and materials process engineers need to understand the technology and be able to control and manage this complex manufacturing environment in order to produce high quality, cost-effective parts. The fact that this course is based upon a mix of taught modules across a number of disciplines, as well as case studies closed linked to industry's needs, means that they will gain an understanding of the demands of the high value manufacturing supply chains and be able to add value to their businesses into the future."

Dr Pam Murrell FICME,
CEO of the Cast Metals Federation

Cranfield University

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

Around 5,800 people come to Cranfield each year to benefit from our executive and professional development programmes. We have the largest number of taught postgraduate engineering students in the UK and award more PhDs in production and manufacturing engineering than any other UK university every 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 teaching staff to every eight students).

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