

Materials Process Engineer Masters Degree Apprenticeship

Developing technical and
operations specialists in
materials processing

The Cranfield University logo is a white circle containing a stylized 'C' shape, which is a negative space design. The text 'Cranfield University' is written in a sans-serif font inside the circle.

Cranfield
University

Cranfield Masterships[®]
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 (casting, coating, welding, brazing, heat treatment and surface treatment technologies) where safe, reliable and long-term stability of manufacturing operations is a key business driver.

The course has been developed in collaboration with industry, trade bodies and associations and the Institute of Apprenticeships to meet 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 in collaboration with a range of industries and their supporting Trade Associations 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 casting, coating, welding, brazing, 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 Manufacturing, Materials and Research Techniques
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
11 January 2021



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



Award
MSc



Fees
£17,000
Eligible for apprenticeship funding

This MSc is accredited by:



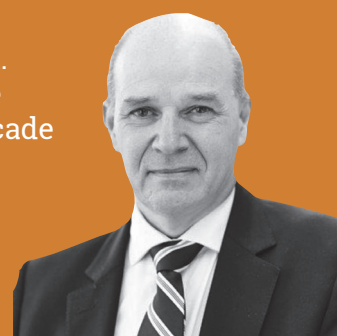
ROYAL AERONAUTICAL SOCIETY
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The university has applied for this course to be accredited by the Engineering Council and at the time of publication, a decision has yet to be made. Accreditation is undertaken by one or more of the professional engineering 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 for further details.

“The Process Engineering Level 7 Masters 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:

AIRBUS



THALES



BOMBARDIER



"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 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 teaching staff to every eight students).

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Please visit www.cranfield.ac.uk/mpe for the latest details.

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