

Material Processing Engineer (Degree) ST0659/V1.0



Level: 7
Duration: 24 months
EPA: 9 months

Assessment Methods

- Work Based Project (comprising of Project Report, Presentation and Questioning)
- Professional Discussion
- Knowledge Test

Gateway Requirements

- Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard
- Achieved English & Mathematics at Level 2*
- Level 6 degree in Materials
- Project subject, title and scope agreed with employer and PIABC
- Gateway Declaration Form

Occupation Summary

This occupation is found in a wide variety of Thermal Process related fields including Casting, Forging, Machining, Coating, Heat treatment and Surface Finishing processes. These specialist areas are also found in a wide range of industries where materials and their processes are fundamental to the technology. Industries as diverse as Medical, Defence, Energy, Oil and Gas, Aerospace and Nuclear all incorporate the skills of Materials Process Engineers.

The broad purpose of the occupation is to perform a role which is unique to the materials/manufacturing community, controlling and managing the complex manufacturing processes and support services that are applied to products for the automotive, aerospace, medical, energy and construction sectors. 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 for integration into a sustainable product life cycle.

A Materials Process Engineer might typically work in either the problem definition or solution provider environments, making critical decisions in the process and utilities to produce high-quality, cost-effective parts and systems, then testing and accepting the designed solutions. They provide essential support to their associated businesses providing guidance and leadership in improving company metrics of quality, delivery, new product introduction and support key financial and business decisions.

To view Materials Process Engineer assessment plan visit:
<https://www.instituteforapprenticeships.org/apprenticeship-standards/materials-process-engineer-degree/>

End Point Assessment

Work-Based Project and Presentation

Work-Based Project - The report should comprise of 8,000 words (+/-10%). The report will be reviewed by PIABC prior to the presentation taking place. Presentation of Project - The presentation will be made to the independent assessor. The presentation and questioning will last for 60 minutes, which will include 20 minutes for delivery of the presentation, then 40 minutes of questioning (minimum of 10 questions).

Professional Review

A professional discussion between the apprentice and independent assessor will last for 60 minutes. It is to enable to apprentice to demonstrate their competence and excellence and cover the KSBs assigned to the professional review. The independent assessor will ask a minimum of 10 open questions.

Knowledge & Skills Test

The test will consist of 25 questions. These questions will consist of 5 open questions requiring short, structured answers, 5 scenario/case study questions and 15 multiple-choice questions. The apprentice has 60 minutes to complete. The test is closed book.

Order of Assessment Methods

The assessment methods can be delivered in any order. The result of one assessment method does not need to be known before taking the other.

Grading

The standard is graded overall: Fail, Pass or Distinction.

* Apprentices who are aged 16 to 18 at the start of their training, are required to achieve English and maths qualifications to support their career progression. Adult apprentices, aged 19 and over at the start of their apprenticeship training, are no longer required to hold or achieve English and maths qualifications to pass their apprenticeship. Instead, these apprentices will need to demonstrate their proficiency through the development and assessment of occupationally relevant English and maths skills as part of their apprenticeship. Funding will continue to be available for English and maths qualifications for all apprentices, including those aged 19 and over, when either the employer or apprentice feels this is required.