Key facts

Title:	Advance Assessments Level 6 Manufacturing Engineer End Point Assessment
Ofqual Qualification Number	610/3833/7
Applicable Apprenticeship Standard(s)	ST0025 Manufacturing Engineer
RQF level:	6 (= third year of a Bachelors degree)
Qualification Objective	To develop engineering and management skills in learners that enable them to take products from design to manufacture, ensuring that they are launched on time, at cost and to the right quality. To continuously improve manufacturing processes and ensure outputs remain relevant and competitive. The qualification may be part of a journey to a senior management position.
Entry requirements:	Individual employers will set their own entry requirements. Please note the Gateway requirements when making this determination.
Programme duration and programme training requirements:	Typically, 60 months Minimum of 20% off-the-job training
Gateway requirements:	Learners must have attained an employer specified BEng/BSc degree accredited by an Engineering Council licenced Professional Engineering Institution (PEI). Employers may wish to use a degree that has yet to achieve PEI accreditation. However, if the intention is to do so a PEI must have been involved and consulted on the content from the outset. Learners must have attained UK RQF Level 2 qualifications in mathematics and English before entry to Gateway. The End Point Assessment can only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the standard and provides a signed declaration* confirming this to Advance Assessments. The apprentice must complete and submit a portfolio of evidence that includes a statement from the employer and the apprentice confirming that the evidence is valid and attributable to the apprentice*.

	This evidence will a) enable the apprentice to showcase specific work related projects/tasks that they have completed on their own during the apprenticeship, to standards required by their employer; and b) demonstrate how they have achieved occupational competence as set out in the Level 6 Manufacturing Engineer standard. The supporting evidence must include relevant and sufficient evidence to cover all the knowledge, skills and behaviours as detailed in this specification, in order to demonstrate competent performance generated from employer directed work based projects/tasks achieved during their apprenticeship and must include: Specific records of the work undertaken by the apprentice including any quality/compliance records, reports or documents produced as part of the work activity. Together with: Evidence of the way the apprentice carried out the activities to meet the requirements of the standard, such as technical expert observations. Company related academic reports/assignments to support the attainment and achievement of underpinning knowledge requirements (where applicable). Each project/task must be authenticated by the apprentice's line manager or other competent person designated by the employer confirming the project/tasks completed by the apprentice met the employer requirements in terms of Safety, Quality, Performance and Time. The supporting evidence can include other relevant technical documentation such as technical training courses, company policies and procedures that support the attainment of the skills, knowledge and behaviours required for occupational competence as set out in the standard and must be available during the End Point Assessment,
EPA completion timescale, following Gateway	Typically, six months
Link to IfATE Occupational progression map	Manufacturing engineer (instituteforapprenticeships.org)
Grades available	Fail/Pass/Distinction

Assessment methods	Case Studies Presentation (**CASE_Q&A**) Occupational Professional Discussion (**PROF_DISC**) The Case Studies Presentation must be completed before the Occupational Professional Discussion
Link to IfATE apprenticeship specification	Manufacturing engineer (degree) / Institute for Apprenticeships and Technical Education

*Blank forms to fulfil each of these requirements are included on the Advance Assessments EPA platform, available to registered apprentices and training providers.
Contact support@advanceassessments.co.uk to register your learners, gain access to the apprentice support materials and equip each learner with a personal upload area.

Definitions:
Gateway refers to the requirements that need to be met in order for an employer to put forward an apprentice for EPA. This ensures that all apprentices have completed the mandatory aspects of the occupational standard and any work that underpins specified assessment methods, and that employers believe an apprentice is occupationally competent at the point they enter Gateway.

KSB (Knowledge, Skills and Behaviours) The Knowledge, Skills and Behaviours required to be competent in the duties described in the occupational standard published by IfATE.

IfATE is the Institute for Apprenticeships and Technical Education is an employer led organisation that supports technical education and apprenticeships in the United Kingdom, through qualifications. It is funded by the Department for Education.

IfATE Occupational Map is the diagram that delineates occupations and the expected qualification achievements along occupational routes in the UK. It is available on the IfATE website.

UK RQF is the UK Regulated Qualifications Framework that defines the levels of different qualifications in the UK.

Assessment methods (2)

1. **Case Studies Presentation**

   The Case Studies Presentation will give the apprentice the opportunity to identify specific and exemplar work-based projects/tasks that they have successfully completed that will allow them to showcase and demonstrate the practical application of the knowledge and skills and behaviours detailed in the standard and set out in this standard. The Case Studies Presentation will be followed by a question-and-answer led by the end-point assessor.

   Case studies presentation delivery
   An assessor from Advance Assessments will be present at the case studies presentation.

The case studies presentation will last 50 +/- 5minutes. The case studies presentation will be immediately followed by a question and answer session which will be 25 +/- 5 minutes in duration. The question and answer session will be 25 +/- 5 minutes in duration. The question and answer session will provide the opportunity for the end-point assessor to seek clarification and probe for further detail/evidence as required.

2. Occupational Professional Discussion

The occupational professional discussion is an interactive process which will enable the end-point assessor to further assess the apprentice's occupational competence. It is a structured and formal discussion between the apprentice and the end-point assessor, drawing on an occupational competence report and supporting evidence/documented supplied by the apprentice at Gateway. The occupational competence report will describe how the apprentice has performed during the apprenticeship when undertaking employer directed project/task.

Prior to the end-point assessment the apprentice will produce an occupational competence report that sets out how they have achieved occupational competence in each of the KSBs assigned to this assessment method in this specification. The occupational competence report for each KSB should not exceed 250 words, 4000 words for the total report. The occupational report will reference supporting evidence which will be used during the Occupational Professional Discussion. The occupational competence report and supporting evidence must be based on examples from the on-programme period and be available at gateway, to allow the employer to authenticate its content.

Occupational professional discussion delivery

An assessor from Advance Assessments will be present at the professional discussion.

The occupational professional discussion will last 90 +/- 5 minutes.

	Assessment Criteria The apprentice:		
Requirement (KSB)	**PASS**	**DISTINCTION**	**Assessment Method**
Knowledge statements			
K1. Mathematics and science for engineers. Maximum grade attainable: Distinction	Contributes to the business with knowledge in Mathematics and Science	Knows how to apply situations that require an advanced understanding of mathematics and science over a broad range of methods	**PROF_DISC**
K2. Materials and manufacture. Maximum grade attainable: Distinction	A comprehensive understanding in manufacturing methods and sound knowledge in operating with appropriate materials	Explains how these can be applied/utilised to enhance product and design needs	**PROF_DISC**
K3 3D Computer Aided Design and Computer Aided Engineering. Maximum grade attainable: Distinction	Demonstrated a strong understanding and awareness of engineering that is aided by computer technology	Can clearly explain specific principles, process and systems involved	**PROF_DISC**
K4. How to run and manage business led projects. Maximum grade attainable: Distinction	Contributes knowledge of project management to run business led projects	Contributes knowledge of project management to run business led projects	**CASE_PRES**
K5. Engineering operations and business management. Maximum grade attainable: Pass	Determines the requirements for engineering activities/operations. Apprentice is able to apply knowledge and understanding of engineering operations and business management in accordance with approved procedures		**CASE_PRES**

K6. Manufacturing processes. Maximum grade attainable: Distinction	Fully understands and knows how to contribute effectively in the process of manufacturing	Fully comprehends and recognises how to lead in manufacturing processes and activities	**CASE_PRES**
K7. Product improvement and engineering project management. Maximum grade attainable: Distinction	Has a detailed and comprehensive knowledge of product improvement and understands how to effectively contribute in engineering project management activities	Can explain in detail advanced product improvement techniques and lead in their implementation by fully understanding how to lead in engineering project management.	**PROF_DISC**
Skills statements			
S1. Comply with statutory and organisational safety requirements and demonstrate a responsible and disciplined approach to risk mitigation, avoidance, and management. Maximum grade attainable: Pass	Demonstrates the importance of compliant, disciplined and responsible behaviours in complying with Statutory and Organisational health, safety and risk management requirements and implications if these are not adhered to		**CASE_PRES AND PROF_DISC**
S2. Undertake project management and schedule of engineering activities. Maximum grade attainable: Distinction	Contributes fully to project management and scheduling activities	Demonstrates advanced scheduling capabilities and leads projects, balancing ongoing timing, quality, cost and delivery considerations right through to successful completion	**CASE_PRES**
S3. Secure and manage appropriate resources. Maximum grade attainable: Distinction Distinction required to achieve overall EPA distinction	Displays levels of ability that fully contributes in securing and managing resources	Is able to perform a leading role in the securing and management of resources	**PROP_Q&A**
S4. Manage budgets. Maximum grade attainable: Distinction Distinction required to achieve overall EPA distinction	Is fully capable at managing budgets and employs sound skills in efficiency whilst controlling budgets	Demonstrates meticulous standard of budget management and advanced skills in budget control	**PROF_DISC**

S5. Implement engineering processes. Maximum grade attainable: Distinction	Fully contributes in the implementation of engineering processes	Plays a lead role in the implementation and execution of engineering processes	**CASE_PRES**
S6. Monitor and evaluating engineering processes. Maximum grade attainable: Distinction	Is able to fully contribute in the monitoring and evaluating of engineering processes	Displays advanced capability in monitoring and evaluation techniques and leads by presenting outcomes to relevant people by using appropriate methods.	**CASE_PRES**
Behaviour statements			
B1. Safety mindset. Maximum grade attainable: Pass	Demonstrates the importance of compliant, disciplined and responsible behaviours in complying with Statutory and Organisational health, safety and risk management requirements and implications if these are not adhered to		**CASE_PRES AND PROF_DISC**
B2. Strong work ethic. Maximum grade attainable: Distinction	Demonstrates a healthy dedication, commitment and strong levels of motivation in the work environment	Encourages other by leading by example and promoting and explaining the benefits of a strong work ethic	**CASE_PRES**
B3. Logical approach. Maximum grade attainable: Distinction	Structure a plan, develops and follows a logical thought process	Thinks quickly on feet	**CASE_PRES**
B4. Problem solving orientation. Maximum grade attainable: Distinction	Identifies engineering issues/problems quickly, enjoys solving problems and applies appropriate solutions	Drives to the root cause of problems and finds solutions preventing recurrence	**CASE_PRES**
B5. Quality focus. Maximum grade attainable: Distinction	Follows quality rules, procedures and principles ensuring work completed is fit for purpose	Pro-actively seeks out and identifies quality issues	**CASE_PRES**
B6. Personal responsibility and resilience.	Provides a strong demonstration in taking personal responsibility with a determined and resilient approach to attaining successful outcomes and results	Volunteers or requests to take on leading roles in challenging and demanding situations offering direction and guidance	**PROF_DISC**

Maximum grade attainable: Distinction			
B7. Clear communicator. Maximum grade attainable: Distinction	Open and honest, clear communicator. Uses appropriate communication methods.	Uses a wide range of communication methods in a timely and positive manner whilst actively listening to others.	**CASE_PRES**
B8. Team player. Maximum grade attainable: Distinction	Not only plays own part but works and communicates clearly and effectively within a team in a respectful and professional manner so that the information given is accurate	Helps and encourages others when required	**CASE_PRES**
B9. Applies Lean Manufacturing Principles. Maximum grade attainable: Distinction	Applies lean manufacturing principes: continuous improvement in driving effectiveness and efficiency	Takes a lead role in driving lean/continuous improvement activities	**CASE_PRES**
B10. Adaptability. Maximum grade attainable: Distinction	Displays strong characteristics in adaptability and capacity to adjust to suit specific operational requirements, in terms of Situations, Environments and Technologies (SETs)	Actively sought out new SETs and provided encouragement and support to those who struggled to adjust	**PROF_DISC**
B11. Self-Motivation. Maximum grade attainable: Distinction	Displays impressive and clearly recognisable levels of self-motivation, enthusiasm and a clear desire to perform at their best as an individual or as part of a team	By inspiring, encouraging and coaching others to adopt similar levels of self-motivation and drive	**PROF_DISC**
B12. Willingness to learn. Maximum grade attainable: Distinction	Willing to learn and further develop skills and knowledge	Actively sources opportunities or training courses to further enhance own abilities and knowledge levels	**PROF_DISC**
B13. Commitment. Maximum grade attainable: Distinction	Clearly displays strong levels of commitment, embracing employer beliefs and aspiring to the same goals and standard.	Actively researches how to engage with a relevant Professional Engineering Institution in order to gain professional recognition at the appropriate level, such as Incorporated Engineer	**PROF_DISC**

Overall grade calculation

Each assessment method is equally weighted.
Each criterion, in each grading category, must reach the required level to achieve an overall PASS / DISTINCTION for an assessment method.
A fail in any Knowledge, Skills or Behaviour requirement will result in a FAIL in the EPA overall.

In the event of a fail, the apprentice will be offered a resit or re-take.

It is the responsibility of the employer to determine how many resits/re-takes an apprentice may take.

DISTINCTION

To be awarded a distinction, apprentices must achieve:

- distinction in at least 3 criteria in each of the KSB criteria for the Case Studies Presentation
  AND
- distinction in at least 3 criteria in each of the KSB criteria for the Occupational Professional Discussion
  AND
- distinction in S3 (Secure and manage appropriate resources)
  AND
- distinction in S4 (Manage budgets)

Document Revision History

Following improvement identifications and review with colleagues, the Assessment Manager is responsible for revisions of this policy/procedure and completion of the table below, before issue of the amended policy/procedure.

Date (most recent first)	Revision(s)	Reason for revision(s)	New Version Number	Approved by (Initial)