Training Tomorrow's Engineers

Level 2 NVQ Diploma in Performing Engineering Operations (7682)

QCF Unit No: 203

QCF Credit Value: 4

Unit Title: Using and communicating technical information

Candidate	
Candidate No	

Table of Contents

Unit Assessment Plan & Feedback

Candidate		Group	

Unit & Assessment Plan
This unit will be undertaken by cross reference from the practical units and completion of knowledge questions

Summative Decision & Candidate Feedback

Assessor Name			
Assessor Signature		Date	

Candidate Name			
Candidate Signature		Date	

Assessment Decision & Verification Declaration

Candidate Declaration: I confirm that the evidence listed for this unit is authentic and a true presentation of my own work.			
Candidate Name			
Candidate Signature		Date	

Assessor Declaration: I confirm that this candidate has met the criteria of this unit with the evidence listed. Assessment was conducted under the specified conditions and context, and is valid, authentic, reliable, current and sufficient. The signature also relates to pages 12 and knowledge questions.			
Assessor Name			
Assessor Signature		Date	

Internal verifier declaration:
I have internally verified the assessment work on this unit by carrying out the following (please tick):

☐ sampling candidate and assessment evidence

☐ observation of assessment practice

☐ discussion with candidate

☐ other – please state:

I confirm that the candidate's sampled work meets the standards specified for this unit and may be presented for external verification and/or certification.

☐ Signed off by Internal Verifier for certification although not sampled

Internal Verifier Name			
Internal Verifier Signature		Date	

Place awarding organisation standards in front of this page.

Assessment Criteria Index

		Performance Evidence 1	***Performance Evidence 2***	***Performance Evidence 3***	***Additional Performance Evidence (if required)***
Evidence Type		*X-REF/WRITTEN*	*X-REF/WRITTEN*	*X-REF/WRITTEN*	
Date					
	Assessment Criteria				
1	**Used the approved source to obtain the required data, documentation or specifications to include all of the following:**				
	• Checked the currency and validity of the data and documentation used	*Unit 19 Page 11*	*Unit 19 Page 28*	*Unit 19 Page 39*	
	• Exercised care and control over the documents at all times	*Unit 19 Page 29*			
	• Correctly extracted all necessary data in order to carry out the required tasks	*Unit 19 Page 19/29*			
	• Sought additional information where there are gaps or deficiencies in the information obtained	*Unit 05 page 5*			
	• Dealt with or reported any problems found with the data	*Unit 05 page 5*			
	• Made valid decisions based on the evaluation of the engineering information	*Unit 05 Page 25*			
	• Returned all documentation to the approved location on completion of the work	*Unit 19 Page 29*			
	• Completed all necessary production documentation	*Unit 19 Page 29*			
2	**Extracted and interpreted information from engineering drawings and other related documentation**	Assessments 1,2,3 Unit 05	Assessments 1,2,3 Unit 19		
3	**Used information extracted from engineering documentation, to include one or more of the following:**				
	• visual display screens				
	• general assembly drawings	*Unit 19 Page 27*	*Unit 05 Page 29*	*Unit 05 Page 15*	
	• repair drawings				
	• fluid power drawings				
	• wiring/circuit diagrams				
	• installation drawings				
	• approved sketches				
	• illustrations				
	• visual display screens				
	• modification drawings				
	• sub-assembly drawings	*Unit 05 Page 28*	*Unit 05 Page21*		
	• schematic diagrams				
	• fabrication drawings				
	• pattern drawings				
	• welding drawings				
	• casting drawings				
	• operational diagrams				
	• physical layouts				
	• manufacturers' manuals/drawings				

4	**Used information extracted from related documentation, to include two from the following:**				
	• job instructions	*Unit 19 Page 26*			
	• drawing instructions	*Unit 05 Page 21*	*Unit 05 Page28*		
	• test schedules				
	• manufacturers' instructions				
	• welding procedure specifications				
	• material specifications	*Unit 05 Page 15*	*Unit 05 Page 21*	*Unit 05 Page 28*	
	• finishing specifications	*Unit 05 Page 15*	*Unit 05 Page 21*	*Unit 05 Page 28*	
	• reference tables/charts				
	• national, international and organisational standards				
	• planning documentation	*Unit 05 Page 17*	*Unit 19 Page 13*	*Unit 19 Page 22*	
	• quality control documents	*Unit 05 Page 19*	*Unit 05 Page 27*	*Unit 19 Page 29*	
	• operation sheets				
	• process specifications				
5	**Extracted information that included three of the following:**				
	• materials or components required	*Unit 05 Page 15*	*Unit 05 Page 21*	*Unit 05 Page 28*	
	• dimensions				
	• tolerances				
	• build quality	*Unit 19 Page 19*			
	• installation requirements	*Unit 19 Page 19*			
	• connections to be made				
	• surface texture requirements				
	• location/orientation of parts				
	• process or treatments required				
	• assembly sequence				
	• inspection requirements	*Unit 19 Page 26*			
	• part numbers for replacement parts				
	• surface finish required				
	• weld type and size				
	• operations required				
	• shape or profiles	*Unit 05 Page 15*	*Unit 05 Page 21*	*Unit 05 Page 28*	
	• test points to be used				
	• circuit characteristics (such as pressure, flow, current, voltage, speed)				
6	**Reported any inaccuracies or discrepancies in the drawings and specifications**	*Unit 005 page 5*			
7	**Used the information obtained to establish work requirements**	*Unit 05 Page 11*	*Unit 05 Page 17*	*Unit 05 Page 23*	
8	**Recorded and communicated the technical information by appropriate means to include three of the following methods:**				
	• producing fully detailed sketches of work/circuits completed or required				
	• preparing work planning documentation	*Unit 19 Page 13*	*Unit 05 Page 27*		
	• recording data from testing activities	*Unit 19 Page 17*			
	• producing technical reports on activities they have completed				
	• completing material and tool requisition documentation				
	• producing a list of replacement parts required for a maintenance activity	*Unit 19 Page 18*			
	• completed training records/portfolio reference	*Unit 01*	*Unit 05*	*Unit 19*	

9	**Dealt promptly and effectively with problems within their control, and seek help and guidance**	*Unit 006 Page 10*	*Unit 005 Page 25*	*Unit 19 page 11*	

Underpinning Knowledge

Candidate	

1	**Describe the information sources used for the data and documentation that they use in their work activities (such as verbal, written, electronic)**
2	**Explain why technical information is presented in different forms (such as drawings, data sheets, and national and international standards)**
3	**Explain how and where to obtain the various documents that they will be using (such as safety handouts, drawings, planning documentation, work instructions, maintenance records, technical manuals and reference tables/charts), and how to check that they are current and valid**

4	**Describe the types of engineering drawings used, and how they interrelate (such as isometric and orthographic drawings; assembly, sub-assembly and general arrangement drawings; circuit and wiring diagrams, block and schematic diagrams; fluid power and instrumentation and control diagrams)**
5	**Describe the meaning of the different symbols and abbreviations found on the documents that they use (such as surface finish to be achieved, linear and geometric tolerances, electronic components, weld symbols and profiles, pressure and flow characteristics, torque values, imperial and metric systems of measurement, tolerancing and fixed reference points)**
6	**Explain how to use other sources of information to support the data (such as electronic component pin configuration specifications, standard reference charts for limits and fits, tapping drill reference charts, bend allowances required for material thickness, electrical conditions required for specific welding rods, mixing ratios for bonding and finishing materials, metal finishing specifications and inspection requirements)**
7	**Describe the procedures for reporting discrepancies in the data or documents, and for reporting lost or damaged drawings and documents**

8	**Describe the care and control procedures for the documents, how damage or graffiti on drawings can lead to scrapped work and the importance of returning them to the designated location on completion of the work activities**
9	**Describe the typical ways of communicating technical information (such as sketches, test and inspection reports, work planning documents), and the amount of detail that should be included**
10	**Describe the need to ensure that sketches are of a suitable size, use appropriate drawing conventions, are in proportion and are legible to others**
11	**Explain why it is important to use a fixed common reference point for dimensioning of drawings and sketches**

12	**Explain when to act on their own initiative to find, clarify and evaluate information, and when to seek help and advice from others**
13	**Explain why they should always seek clarification if they are in any doubt as to the validity or suitability of the information they have gathered**
14	**Explain to whom report in the event of problems that they cannot resolve they should**

I confirm that this candidate has met the assessment criteria for underpinning knowledge see declaration page 4