



ETCAL Level 3 Diploma in Business Improvement Techniques
601/6080/9
Assessment

Diploma - Assessment Principles

Introduction

ETA qualifications are developed in conjunction with the industries and employers they service. They are designed to add value and deliver multidimensional outputs that provide impact for both learners and employers.

It is therefore important that the assessment requirements of ETA qualifications are robust whilst not containing unnecessary and over-burdensome challenges that detract from the intended outcomes and impact. These assessment principles are prepared with that in mind and are applicable to this qualification:

Level 3 Diploma in Business Improvement Techniques

Principles

There are four key principles to underpin assessment delivery:

1. Assessment should contribute to developing a learner's knowledge and/or skills and provide relevant and current development as the related industry requires.
2. Systems for capturing evidence of competence should be integrated and efficient. Assessment practices for both competence-based and knowledge-based aspects of qualifications should, where possible, be integrated with industry driven standards and requirements.
3. Assessment methods must be appropriate for the level and nature of the qualification units to be assessed. Methods of assessing achievement against learning outcomes and assessment principles must be accommodating and flexible, whilst remaining appropriate for both the level being assessed and industry expectations of learners at that level.
4. Evidence of knowledge and understanding must be recorded and be clearly attributable to the learner. This can be delivered using task based activity with questions and answer sessions, supported by assessor observation.

The choice and application of assessment methods must be consistent with these principles and will generally include:

- Direct Observation
- Written evidence (portfolio/workbook)
- Centre set assignment
- Centre set coursework
- Oral examination
- Professional/open discussion

Delivery Team Requirements

Tutors / Assessors

- Tutors / Assessors should have a detailed knowledge of, and be competent in, the occupational requirements of the units
- Tutors / Assessors should hold or be working towards the related professional qualifications for delivery and assessment as required
- This competence will have been acquired either in direct employment in the occupational role to which the unit relates, or in employment as a manager, supervisor or in-house trainer of employees carrying out the role
- It is unlikely that occupational competence will have been achieved in less than twelve months of employment but individuals with less experience could be considered as assessors if sufficiently occupationally competent

Internal Quality Assurers (IQAs)

- IQAs must have a thorough understanding of the structure, content and occupational requirements of the units that they are internally quality assuring. This understanding will have been acquired while either working directly within or delivering within the relevant occupational area in either an operational or a support function
- The level of understanding must be sufficient to allow the IQA to judge whether the assessor has fully assessed learners against all the principles within the unit
- It is unlikely that a person could have gained this level of understanding in less than twelve months of being employed but individuals with less experience could be considered as IQAs if they have the required level of experience, knowledge and understanding.

Technical / Expert Witness

Expert witnesses can be drawn from a wide range of people who can observe, 'measure and examine performance against the industry and qualification principles. These can include; line managers and experienced individuals within a related sector-based organisation. The Technical Expert Witnesses should have proven practical experience and knowledge relating to the content of the principles being assessed.

It is unlikely that someone could become an expert in their entire job role in less than twelve months of being employed in their industry. They could, however, very quickly become an expert in the content of a single unit if this was the focus of their job role. The assessor should make a

judgement as to the level of expertise held by a potential Technical Expert Witness and, where necessary, this should be confirmed with the awarding organisation.

Assessment Materials

ETC Awards Ltd. (ETA) Assessment Materials are protected by copyright and are supplied only to Approved Centres for use solely for the purpose of the assessment of ETA learners.

Instructions for Conducting Assessment

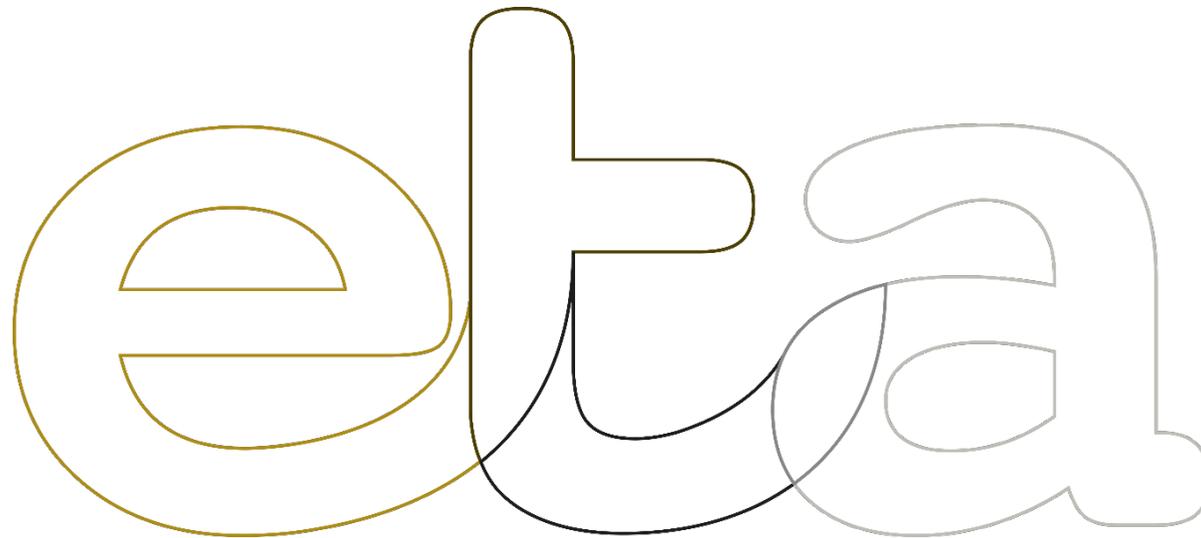
the Approved Centre must either:

- secure approval of in house assessment material by ETA's External Quality Assurance team prior to use
- use ETA Assessment Materials
- we recognise that reasonable adjustments may be considered at the time of assessment, please refer to the ETA Reasonable adjustments and considerations policy

All approved centres must then handle and store securely all Assessment Materials in accordance with the following:

- Assessment Material must be accessible to learners only during their programme
- The Approved Centre must not make public in any format the contents of any materials either in part or in full.
- Materials must be securely handled and under no circumstances shared with third party organisations or individuals
- The Approved Centre must seek permission from ETA through the External Quality Assurance team if they want to convert Material for alternative storage, retrieval and delivery in electronic formats.

All centre based assessment material must be agreed with ETA prior to use and will be subject to robust monitored during sampling and verification activity.



Level 3 Unit – Understanding the application of statutory regulations and organisational safety requirements

Unit aim

This unit covers the skills and knowledge needed to prove the competences required to deal with statutory regulations and organisational safety requirements. It does not deal with specific safety regulations or detailed requirements, it does, however, cover the more general health and safety requirements that apply to working in an industrial environment.

Unit introduction

This unit develops learners understanding of the hazards and risks that are associated with their job. Typically, these will focus on their working environment, the tools and equipment that they use, the materials and substances that they use, any working practices that do not follow laid-down procedures, and manual lifting and carrying techniques. The learner's responsibilities will require them to comply with all relevant statutory and organisational policy and procedures for health and safety in the workplace and understand their organisation's health and safety requirements and their application, in adequate depth to provide a sound basis for carrying out their activities in a safe and competent manner.

Assessment

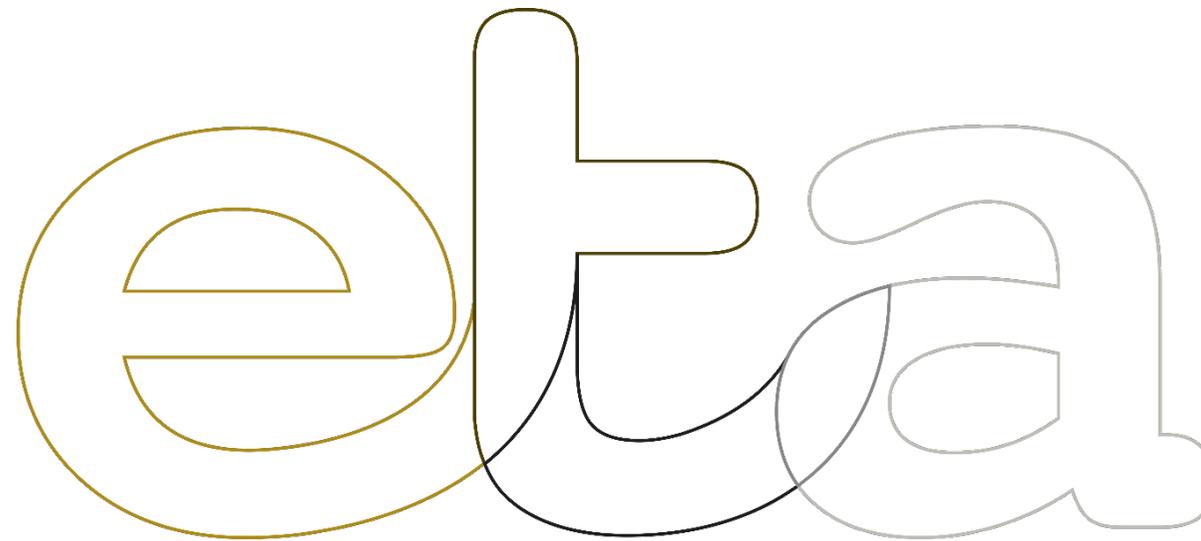
To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		T/503/5833
Qualification Framework		RQF
Title		Understanding the application of statutory regulations and organisational safety requirements
Unit Level		Level 3
Guided Learning Hours		18
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know the principal provisions of the Health and Safety at Work Act and other current legislation	1.1	Identify the principal provisions of the Health and Safety at Work Act current legislation and other current legislation
		1.2	Describe the principal provisions of the Health and Safety at Work Act and other current legislation
2.0	Know how current legislation affects health and safety issues in respect of employers, employees and the public	2.1	Describe how current legislation affects health and safety issues in respect of employers, employees, and the public
3.0	Know how to obtain information and relevant advice on the organisation's health and safety policy	3.1	Obtain information and relevant advice on health and safety legislation and guidelines
		3.2	Source expert assistance when help is needed on the organisations health and safety policy
4.0	Know the general safe working practices associated with operations in the workplace	4.1	Describe the general safe working practices associated with operations in the workplace
		4.2	Describe the implications and consequences of the appropriate legislation and guidelines not being followed
5.0	Know the types, causes, and consequences of workplace accidents and emergencies	5.1	Identify the types of accidents and emergencies that can occur in the workplace

		5.2	Describe what are the root cause of accidents and what are the methods for preventing them
		5.3	Describe the far reaching consequences of workplace accidents
		5.4	Describe the first aid arrangements required in the workplace
6.0	Know the procedures to be followed in the event of accidents, injuries, the causes of fire, fire prevention and fire fighting procedures, the evacuation of the premises, and dangerous occurrences or hazardous malfunctions	6.1	Identify the procedures to be followed in the event of accidents or injuries
		6.2	Describe what an evacuation of the premises would require
		6.3	Describe what would be considered a dangerous occurrence or hazardous malfunction
7.0	Know the hazards and risks associated with work activities, and the importance of being involved in the risk assessment procedure	7.1	Describe what is meant by a 'hazard'
		7.2	Describe what is meant by a 'risk'
		7.3	Identify the hazards and risks that are found in the workplace, and who could be affected
		7.4	Describe why risk assessments are necessary, and who needs to be involved in their production
8.0	Be able to carry out a risk assessment activity	8.1	Carry out a risk assessment using a given scenario and complete a risk assessment sheet
		8.2	Describe the criteria for carrying out a risk assessment
		8.3	Describe what documentation will be used in a risk assessment
		8.4	Describe what techniques are necessary to ensure a risk assessment is carried out effectively
		8.5	Describe how the results of a risk assessment would be publicised
9.0	Know the steps necessary to minimise the risk of injury or damage when moving a load	9.1	Describe what is meant by manual and mechanical handling
		9.2	Identify what regulations apply to manual handling and lifting, and why they are needed
		9.3	Describe their responsibilities with regard to safe manual handling
		9.4	Describe the correct technique for safe manual handling

10.0	Be able to correctly and safely move a load using the appropriate methods and techniques	10.1	Manually lift a load using the correct manual handling procedure
		10.2	Describe the correct procedure and technique needed to carry out the safe manual lifting of a load
11.0	Know how to apply good housekeeping and safe working practices as a basis for the safe implementation of lean business activities	11.1	Describe how good housekeeping and safe working practices are a basis for the safe implementation of other lean business activities

A large, stylized version of the 'eta' logo. The 'e' is gold, the 't' is black, and the 'a' is grey. The letters are thick and rounded, with a slight shadow effect.

Level 3 Unit – Understanding the Leading of Effective Teams

Unit aim

This unit covers the skills and knowledge needed to prove the competences required for leading effective teams, which are involved in carrying out continuous improvement activities. It involves obtaining appropriate authority and support for the release of resources to carry out team activities, which will include people, work space/work area, documentation and information. The learner will be required to determine and agree individual roles and responsibilities, and to set realistic and achievable goals for both the individuals within the team and the team as a whole. Coaching/mentoring and monitoring the performance of their team will also feature in this unit. The learner will also be expected to prioritise the work activities to achieve the overall objectives, cost-effectively and efficiently.

Unit introduction

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner must ensure that the team performs the tasks to the required standard and that all necessary job/task documentation is completed accurately and legibly. The learner will be expected to take full responsibility for the decisions that they make, and for the overall performance of the team.

Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		T/503/5816
Qualification Framework		RQF
Title		Understanding the Leading of Effective Teams
Unit Level		Level 3
Guided Learning Hours		28
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know how to set achievable business targets	1.1	Specify the range and use of business targets within a work area/product range
		1.2	Define how to set achievable personal, team member and overall team targets
		1.3	Explain how to priorities team leader and team workloads to ensure that targets are met
2.0	Understand effective team leader communication techniques	2.1	Explain what effective forms of communication can be used to help deliver the business targets set
		2.2	Describe how to present information effectively to management, peers or team members using the appropriate methods
3.0	Know how to review team performance	3.1	Explain how to conduct a team performance review
		3.2	Summarise how to involve the team in activates to identify team performance opportunities, threats and solutions
		3.3	Specify the types of conflict and problems that may emerge and which could be detrimental to a teams performance
4.0	Understand business improvement methods and practices	4.1	Explain why organisational processes and procedures are required to help run businesses effectively
		4.2	Specify the type and range of improvement tools and techniques that could be used as part of business improvement within a work area/product range
5.0	Know how to organise an improvement activity	5.1	Explain how to develop an action plan that clearly define activities and responsibilities
		5.2	Explain why it may be necessary to seek specialist advice and help
6.0	Know how to lead an improvement activity	6.1	Explain how to lead a team event which had clearly defined activities and responsibilities

		6.2	Define how specialist advice and help can be obtained during the team activity
7.0	Know how to improve team skills and knowledge	7.1	Explain how to train others in the processes and procedures that are relevant to them and their area of responsibility
		7.2	Specify how to monitor and check a team is working to identified quality and safety standards



Level 3 Unit – Understand the Application of workplace organisation techniques

Unit aim

This unit covers the skills and knowledge needed to prove the competences required to apply a systemic approach to continuously making improvements to the workplace organisation. It involves co-ordinating and applying the principles and techniques of workplace organisation (such as 5S or 5C). The learner will need to consider the work area and its activity, to determine where information, materials, tools and/or equipment are missing or require a new location and what improvements to the area or activity could be made. The learner will be expected to produce standard operating procedures and visual controls for the work area, which could cover such things as producing shadow boards to standardise the storage and location of area equipment, colour coding of equipment, cleaning and maintenance of equipment, production operations, and health and safety. The overall objective of the activity will be to improve the condition of the working environment and in doing so establish a new improved area score.

Unit introduction

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner will be expected to take full responsibility for their own actions within the activity, and for the quality and accuracy of the work they carry out. The learner's knowledge will provide a good understanding of the workplace organisation activity and the area in which they are working, and will provide an informed approach to the techniques and procedures used. The learner will need to understand the principles of workplace organisation and their application, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

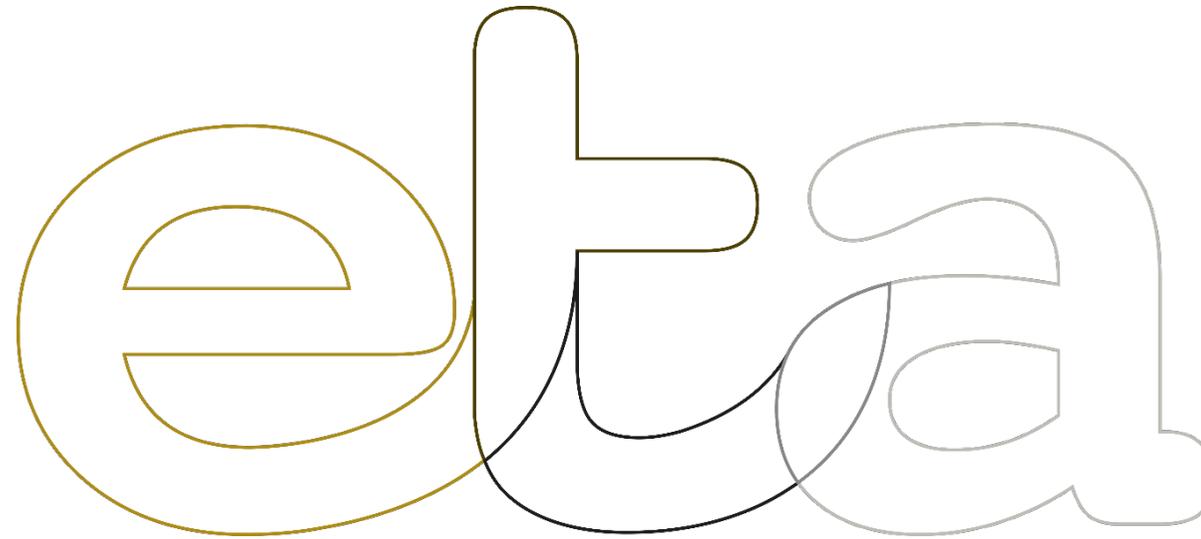
Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		J/503/5819
Qualification Framework		RQF
Title		Understand the application of workplace organisation techniques
Unit Level		Level 3
Guided Learning Hours		26
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know the principles of workplace organisation	1.1	Define a working environment
		1.2	Explain what is meant by an organised working environment
2.0	Understand the benefits of workplace organisation	2.1	State the benefits that can be achieved by having an organised working environment
		2.2	Explain the importance of having an organised working environment
3.0	Know the key techniques of workplace organisation	3.1	Describe the methods and techniques of workplace organisation
		3.2	Explain how the workplace organisation methods and techniques are used
		3.3	Define a stepped approach to workplace organisation
4.0	Know how to apply the workplace organisation techniques	4.1	Explain how to apply a stepped approach to workplace organisation
		4.2	Explain the procedure used to identify and address surplus or missing equipment or resources
		4.3	Specify the benefits of removal or redeployment of tagged items
5.0	Know how to carry out a workplace organisation audit	5.1	State why it is necessary to audit the workplace organisation activity
		5.2	Describe the tools and techniques used to score the audit
		5.3	Explain how to carry out a workplace organisation audit

6.0	Understand how to interpret workplace organisation audit results	6.1	Describe how to evaluate the results of a workplace organisation audit
		6.2	Describe how to priorities the actions resulting from a workplace organisation audit
7.0	Know how to deliver the improvements identified by the workplace organisation audit	7.1	Explain why an action plan is created to deliver the improvements identified by the workplace organisation audit
		7.2	Specify why the implications of the action plan on other areas of the business must be considered



Level 3 Unit – Understanding the application of continuous improvement techniques (Kaizen)

Unit aim

This unit covers the skills and knowledge needed to prove the competences required for applying continuous improvement techniques (Kaizen) to their work activities. It involves planning the Kaizen process for the agreed work area/activity, to include plan, do, check, act, and to establish quantifiable objectives and targets for the improvement activity. The activities undertaken will include the identification of all forms of waste, and problems or conditions within the work area or activity where improvements can be made. The learner will need to focus on co-ordinating and carrying out improvement activities which would give business benefits such as reduced product cost, increased capacity and/or flexibility, improved safety, improved regulatory compliance, improved quality, improved customer service, improvements to working practices and procedures, reduction in lead time and reduction/elimination of waste.

Unit introduction

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner will be expected to take full responsibility for their own actions within the activity, and for the quality and accuracy of the work that they carry out.

The learner's knowledge will provide a good understanding of the Kaizen activity and the area in which they are working and will provide an informed approach to the techniques and procedures used. The learner will need to understand the Kaizen principles and their application, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

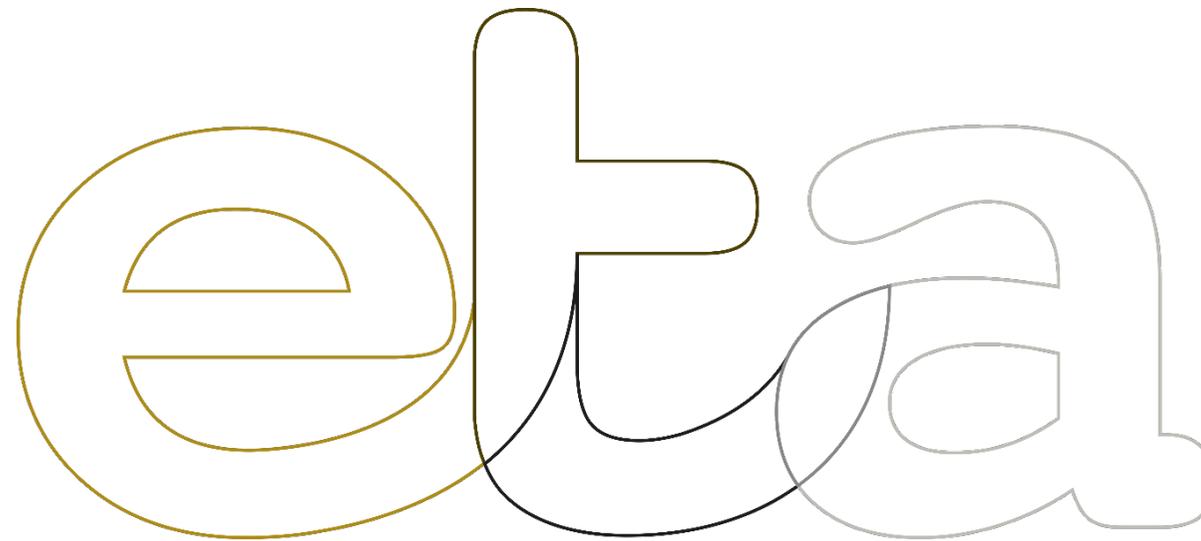
Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		J/503/5822
Qualification Framework		RQF
Title		Understanding the application of continuous improvement techniques (Kaizen)
Unit Level		Level 3
Guided Learning Hours		24
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know the principles of continuous improvement	1.1	Explain why it is important to continuously improve the working environment
		1.2	Specify the type of improvements that could be made as part of a continuous improvement initiative within in a work area
2.0	Know what is meant by the term 'waste' and how it is identified	2.1	Specify the categories of 'waste' that can have a detrimental effect on businesses
		2.2	Explain the methods that could be used to identify waste in a business
3.0	Understand how waste can be eliminated	3.1	Specify the methods that are used to eliminate waste in a business
		3.2	Specify what actions could be used to ensure that re-occurrence does not take place
4.0	Know what the purpose is of benchmarking	4.1	Explain what is meant by benchmarking
		4.2	Explain how benchmarking is used to improve a business function
		4.3	Specify the typical benchmarking measures that are used
5.0	Understand how to apply the continuous improvement principle	5.1	Specify the type of improvements that can be made in the workplace and how they could be identified
		5.2	Specify how a stepped continuous improvement activity e.g. PDCA would be carried out
		5.3	Explain the factors that would ensure the improvement activity has been a success
6.0	Know the reasons behind the use of performance indicating techniques	6.1	Specify the types and application of key performance indicators that are used to measure business improvement

		6.2	Explain how the results of any improvements would be best communicated to the key employees in the business
7.0	Know how to put into operation an improvement plan	7.1	Specify what would need to be included in the improvement plan
		7.2	Explain how to get approval for the plan and how the plan would be communicated to the improvement team
8.0	Know how to ensure the improvements are sustained	8.1	Explain the role of standard operating procedures in helping sustain the improvements
		8.2	Explain the importance of an appropriate environment for improvement



Level 3 Unit – Understanding the development of visual management systems

Unit aim

This unit covers the skills and knowledge needed to prove the competences required for developing and applying the principles and processes of visual management. It involves identifying the appropriate parts of the process or work area that will have visual controls and identifying the key performance indicators which are to be displayed in the work area. The learner will also be required to measure the effectiveness of the visual management system and to change and maintain the quality of the information that is being displayed. The information to be displayed will include such things as safety, zero defects, process concerns or corrective actions, performance measures, standard operating procedures (SOPs), workplace organisation, skills matrices, autonomous maintenance worksheets, parts control systems, problem resolution (e.g. Kaizen boards), shadow boards and standard work-in-progress (WIP) locations and quantities.

Unit introduction

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner will be expected to take full responsibility for their own actions within the activity, and for the quality and accuracy of the work that they carry out.

The learner's knowledge will provide a good understanding of their work and will provide an informed approach to the techniques and procedures used. The learner will need to understand the principles and procedures of visual management, and its application, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		R/503/5824
Qualification Framework		RQF
Title		Understanding the development of visual management systems
Unit Level		Level 3
Guided Learning Hours		18
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know the principles of visual management	1.1	Explain what is meant by 'visual management'
		1.2	Specify how visual management can be applied in a work area or to a product range
2.0	Understand the benefits of visual management	2.1	Specify the benefits of having visual management systems in place
		2.2	Explain how visual management systems lead to the creation of the 'visual factory'
3.0	Know the range of visual management techniques	3.1	Specify the different forms of visual management techniques that could be used in a work area/product range
		3.2	Explain which parts of a work area/product range visual management could be applied to
		3.3	Explain the types of information and performance indicators that can be displayed visually
4.0	Understand how to prepare for the deployment of visual management	4.1	Specify the improvement actions and measurement techniques that will be used to create the visual management systems
		4.2	Explain how to employ an improvement action that requires a visual management system activity within a work area/product range
5.0	Understand how to apply visual management systems in the workplace	5.1	Explain how to carry out a visual management activity within a work area/product range
		5.2	Explain the methods used to display and maintain the information gained using the most appropriate and cost effective methods
6.0	Know how to conduct a review of the visual management system	6.1	Specify how a review of the visual management system would be carried out
		6.2	Explain how the effectiveness of the system could be measured

7.0	Know how to take forward the visual management system principle	7.1	Explain how other functions within the business can contribute to and benefit from information generated by the system
		7.2	Explain how further improvement actions continue to drive the implementation and development of the system



Level 3 Unit – Understanding the creation of flexible
production and manpower system

Unit aim

This unit covers the skills and knowledge needed to prove the competences required for creating flexible business systems. It involves applying the principles and processes of creating flexible production and manpower systems to the chosen activity. This will include obtaining the schedule and batch size for the parts in the work area and creating level schedules for those parts. The activities will require the learner to identify improvement opportunities, and waste which needs to be removed, in order to achieve Takt time and flow processing. The learner will also be required to produce a visual representation for identifying which resources do not meet the Takt time requirements. This would typically cover areas such as standard work in progress, consignment stocks, part routers, physical control signals, number of people required and their flexibility, and the rules and disciplines of the pull system.

Unit introduction

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner will be expected to take full responsibility for their own actions within the activity, and for the quality and accuracy of the work that they carry out.

The learner's knowledge will provide a good understanding of their work and will provide an informed approach to the techniques and procedures used. The learner will need to understand the principles and procedures of creating flexible production and manpower systems, and their application, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		Y/503/5825
Qualification Framework		RQF
Title		Understanding the creation of flexible production and manpower systems
Unit Level		Level 3
Guided Learning Hours		20
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know the principles of a flexible production and manpower system	1.1	Explain the reasons for having a flexible production and manpower system within a lean business environment
		1.2	Specify what is required for the successful implementation and running of a flexible production and manpower system
2.0	Know how to prepare to set up a flexible production and manpower system	2.1	Explain how to use the principle tools to establish the information needed to help improve efficiency and productivity
		2.2	Specify the techniques used to visually communicate the information and the work to be undertaken
3.0	Understand how to create a flexible production and manpower system	3.1	Explain how to generate a lean workplace layout utilising the appropriate cell manufacturing techniques
		3.2	Specify the different techniques used within the set up to create and maintain the flexible production and manpower system
4.0	Know how to carry out improvements to the flexible production and manpower system	4.1	Specify the type of value adding improvements that can be made to the flexible production and manpower system
		4.2	Specify the sort of problems that can occur and affect the running of a system
		4.3	Explain how any problems with the flexible production and manpower system would be resolved
5.0	Understand the use of skills matrices within a flexible production and manpower system	5.1	Explain how to create a skills matrix
		5.2	Explain how a skills matrix would be used in a flexible production and manpower system



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Level 3 Unit – Understanding how to carry out problem solving activities

Unit aim

This unit covers the skills and knowledge needed to prove the competences required to solve problems, in accordance with approved procedures. Problems could occur in any aspect of the business, such as manufacturing, engineering, processing, service and support functions. The learner will be expected to take prompt and appropriate action to identify, analyse and implement corrective actions to solve the problem.

The learner will be required to investigate problems by obtaining all the necessary data and information, to enable them to identify and evaluate the possible corrective actions and their effects on both the process and the people involved.

Unit introduction

The learner's responsibilities will require them to comply with organisational policy and procedures for the successful implementation of the corrective actions to problems, and to report any difficulties that they cannot personally resolve to the relevant authority.

The learner's knowledge will provide a good understanding of a structured approach to problem solving. The learner will be conversant with organisational procedures and systems, including methods of evaluating the outcomes of the problem-solving activity. The learner's knowledge will enable them to take an informed approach to applying problem-solving techniques and procedures to a range of problems and will provide a sound basis for carrying out the activities to the required standard.

Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		D/503/5826
Qualification Framework		RQF
Title		Understanding how to carry out problem solving activities
Unit Level		Level 3
Guided Learning Hours		20
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know how to identify the nature and extent of a problem	1.1	Specify the methods used to detect a problem that has occurred within a work area/product range
		1.2	Explain how a non-conforming product or process would be contained
		1.3	Explain how to select and apply a structured procedure for problem solving to a product or process
2.0	Understand how to obtain data and information relevant to the problem	2.1	Explain the use of performance measurement and analysis to direct and focus the problem solving effort
		2.2	Specify the techniques used to obtain data and information on problems within a work area/product range
3.0	Understand how to establish the root cause of a problem	3.1	Specify the methods and techniques used in evaluating information and the importance of getting to the root cause
		3.2	Explain the methods and techniques used in root cause analysis
		3.3	Explain how to determine criticality and establish priorities
4.0	Know how to implement corrective actions to problems	4.1	Specify the methods used to choose and implement corrective actions and the factors that would need to be taken into account within a work area/product range
		4.2	Explain who would need to be informed of the corrective actions and what reporting procedures and documentation would be used
5.0	Know how to monitor the effectiveness of the corrective actions	5.1	Specify the range of methods that could be used to monitor the effectiveness of the corrective actions
		5.2	Explain how to review the problem solving process in order to achieve further improvements within the business



Level 3 Unit – Understanding the process of Analysing and selecting parts for improvement

Unit aim

This unit covers the skills and knowledge needed to prove the competences required for analysing and selecting parts for improvement. It involves applying the principles and processes of analysing and selecting parts for improvements within the chosen area/product range. The learner will be expected to co-ordinate and analyse information to identify and produce part families, using criteria such as part shape, part size, materials used to manufacture the part, and the manufacturing process used.

The learner will also be required to carry out an analysis within the chosen area/product range, typically focusing on customer schedules (volume), cost of producing the part, profit for each part as a percentage, manufacturing lead time, quality (scrap and non-conformance percentage) and the process/manufacturing route.

Unit introduction

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner will be expected to take full responsibility for their own actions within the activity, and for the quality and accuracy of the work that they carry out.

The learner's knowledge will provide a good understanding of their work and will provide an informed approach to the techniques and procedures used. The learner will need to understand the principles and procedures of analysing and selecting parts for improvement, and their application, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		H/503/5827
Qualification Framework		RQF
Title		Understanding the process of analysing and selecting parts for improvement
Unit Level		Level 3
Guided Learning Hours		18
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know the principles of analysing and selecting parts for improvement	1.1	Specify how the use of data analysis can be used in monitoring the performance of a product or service
		1.2	Explain the specific benefits of the process of analysing and selecting parts for improvement in helping improve quality
2.0	Understand how to prepare for the deployment of analysing and selecting parts for improvement	2.1	Specify the type of information, documentation and equipment needed to carry out the activity within a work area/product range
		2.2	Explain how the information obtained is evaluated in order to select the representative parts for the chosen work area/product range
3.0	Understand how to apply the process of analysing and selecting parts for improvement	3.1	Specify how the appropriate tools and techniques would be selected to identify problems with the product/service
		3.2	Explain how the appropriate tools and techniques would be used
		3.3	Explain how to evaluate the information obtained to determine the representative part families for the chosen work area/product range
4.0	Know how to present the results of the analysis	4.1	Specify how to select the appropriate methods to communicate the information gained from the analysis
		4.2	Explain how to use the appropriate methods to communicate the information
5.0	Understand how to utilise the results of the analysis	5.1	Explain how the information gained will be converted into production system documentation and requirements
		5.2	Explain how other aspects of business performance can improve as a result of the analysis of the work area/product range



Level 3 Unit – Understanding the application of set-up reduction techniques

Unit aim

This unit covers the skills and knowledge needed to prove the competences required for applying set-up reduction techniques. It involves applying the principles and processes of set-up reduction to a machine or process set-up, changeover, clean-down or turnaround activity that is a bottleneck or constraint which affects the process, such as capacity, flexibility, lead time, inventory or other business performance measure.

The learner will be expected to identify and confirm where the problems occur within the set-up process, and to determine where improvements can be made. The learner will need to set suitable quantifiable objectives and targets against which the improvements are to be made. The activities will require them to co-ordinate and carry out set-up reduction activities on different machines or processes, and to make improvements to the current set-up, which will include such things as reduced set-up time, improved safety, improved quality and improved work practice.

Unit introduction

The learner will also be required to produce changes to standard operating procedures for the new set-up, which include all of the new steps to be carried out, the time required for each step, differentiation between internal and external steps, standard equipment and its location (e.g. cutting tools, clamps, hand tools, inspection equipment) and information required for a quick set-up, and its location (e.g. CNC programs, drawings and manufacturing instructions).

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner will be expected to take full responsibility for their own actions within the activity, and for the quality and accuracy of the work that they carry out.

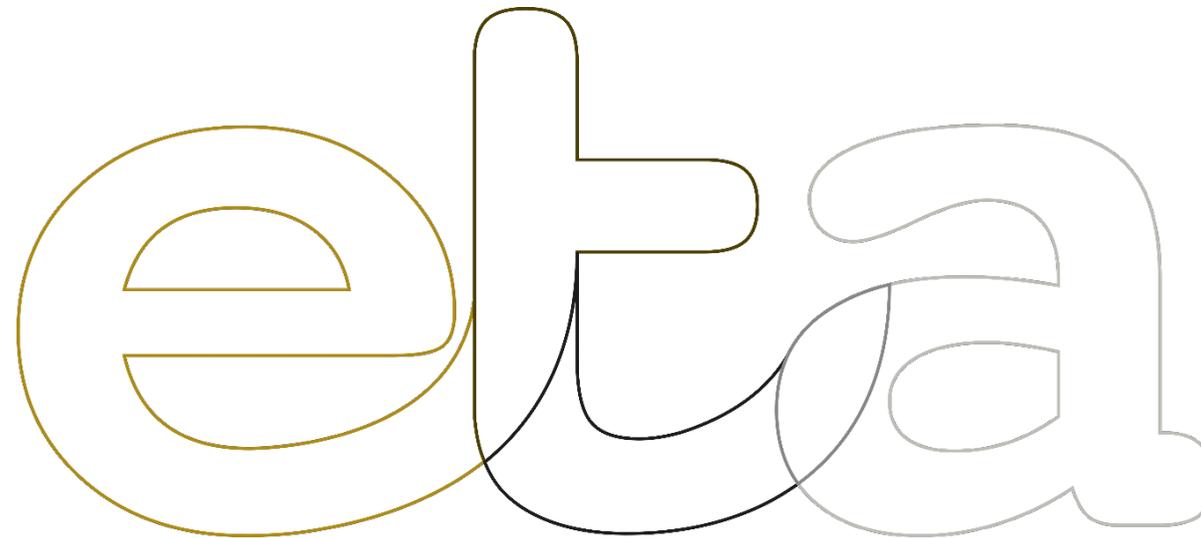
Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		D/600/5333
Qualification Framework		RQF
Title		Understanding the application of set-up reduction techniques
Unit Level		Level 3
Guided Learning Hours		26
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Understand the principles of set-up and changeover reduction techniques	1.1	Specify the principles of set-up reduction techniques and how it can lead to improvements in business efficiency and profitability
		1.2	Explain why a machine, process or operation would be selected for an improvement activity
		1.3	Specify the range of improvements that are possible within a work area/product range
2.0	Understand the benefits of effective process set-up and changeover	2.1	Explain the difference between motion and work
		2.2	Explain what is meant by value adding and non-value adding activities
		2.3	Explain the difference between internal and external activities
3.0	Know how to prepare for the deployment of the set-up reduction techniques activity	3.1	Specify the basic steps or functions in a set-up procedure and their application to a machine/process bottleneck or constraint
		3.2	Specify the basic stages to be followed in the set-up procedure aimed at streamlining the set-up operation
		3.3	Explain how to carry out the preparations that need to be done prior to the set-up reduction activity taking place
4.0	Understand how to apply a set-up reduction techniques activity	4.1	Explain how to apply the practical steps of set-up reduction techniques using the principles of 'Single Minute Exchange of Dies' (SMED)
5.0	Know how to further improve the set-up and changeover activity	5.1	Explain how to apply effective problem solving methods and techniques to further improve the set-up activity
		5.2	Specify how to set quantifiable targets and objectives for the improvement activity
		5.3	Explain how the targets and objectives can be achieved

		5.4	Explain how to create an action plan to convert internal activities to external activities which takes into account any implications for other parts of the business
6.0	Know how to sustain the improvements made to the set-up/changeover	6.1	Explain how to critically evaluate the changes that have been made or are being proposed to the set-up activity
		6.2	Explain the role of standard operating procedures in helping sustain the improvements



Level 3 Unit – Understanding the creation of standard operating procedures (SOP)

Unit aim

This unit covers the skills and knowledge needed to prove the competences required to create standard operating procedures (SOP) for work activities.

This will involve co-ordinating, analysing and documenting the information gathered from the method used when performing the operation/process. The learner will confirm what preparations are required from start to finish, the quality and safety standards to be maintained, and the drawings, tooling, fixtures, gauges, and other items that are used during the operation or process. The learner will need to highlight 'key points' in the document, using drawings, photographs and/or sketches, as appropriate.

The learner will be required to ensure that those involved in performing the operation or process have the opportunity to contribute, and agree the method identified.

Unit introduction

The learner will also be required to produce standard operating procedures for a range of activities, such as cleaning of equipment, maintenance of equipment, health and safety practices and procedures, process procedures, manufacturing operations and quality improvements.

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner will be expected to take full responsibility for their own actions within the activity, and for the quality and accuracy of the work that they carry out.

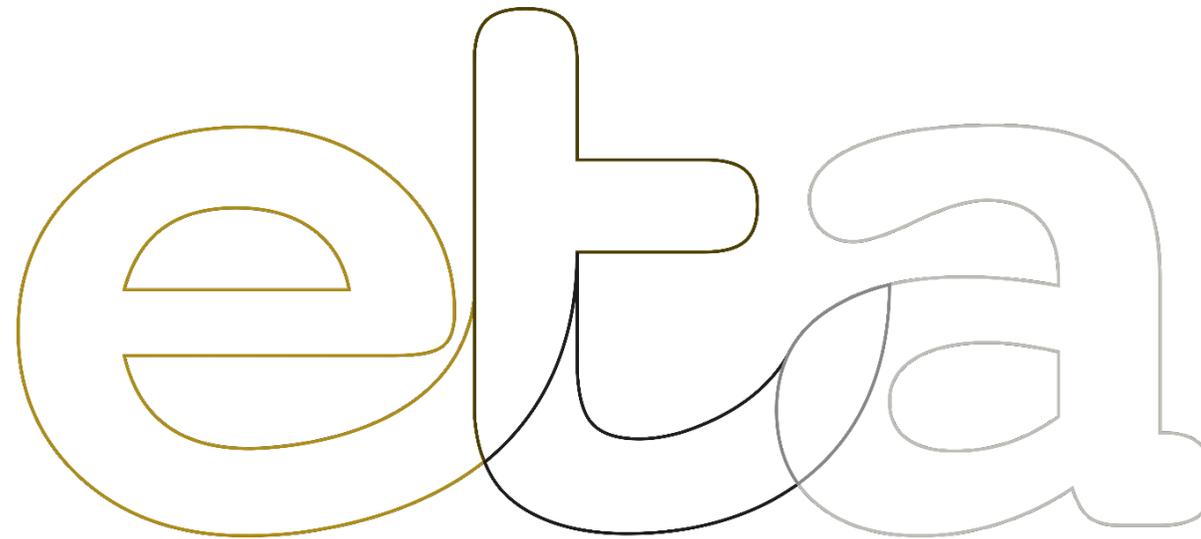
Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		K/503/5831
Qualification Framework		RQF
Title		Understanding the creation of standard operating procedures (SOP)
Unit Level		Level 3
Guided Learning Hours		18
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know the importance of standardisation in the workplace	1.1	Explain what is meant by the term standardisation as applicable to a business environment
		1.2	Explain how standardisation can help to make an organisation more competitive
2.0	Understand the benefits of having standard operations	2.1	Specify what is meant by 'standard operations'
		2.2	Specify the areas within a work area/product range that the establishing of standard operations will seek to address
3.0	Understand the benefits of having standard operating procedures	3.1	Explain how standard operating procedures underpin the standard operation
		3.2	Explain how the standard operating procedure can lead to simplifying the work done by helping eliminate waste and human error
4.0	Know how to relate work activities to standard operating procedures	4.1	Specify the difference between value added and non value added operations
		4.2	Explain how the difference between value added and non value added operations is established
		4.3	Specify the principles of motion economy and how this is incorporated into a standard operating procedure
5.0	Know how to prepare for the production of a standard operating procedure	5.1	Specify the basic outline of the standard operating procedure
		5.2	Explain the type of information that would need to be included in a standard operating procedure and how it would be categorised
		5.3	Specify how the information used to create standard operating procedure would need to be collected

6.0	Know how to produce a standard operating procedure	6.1	Explain how a standard operating procedure is created
		6.2	Explain how to monitor the accuracy and use of a standard operating procedure against the work requirements
		6.3	Explain why liaising with other parts of the business chain may be necessary before finalising the standard operating procedure
7.0	Understand the need to apply the continuous improvement process to standard operating procedures	7.1	Specify the reasons for having a review of a standard operating procedure
		7.2	Explain what are the factors that could lead to a revision of a standard operating procedure



Level 3 Unit – Understanding the application of flow processes
analysis

Unit aim

This unit covers the skills and knowledge needed to prove the competences required to apply flow process analysis. It involves applying the principles and procedures of flow process analysis, within a given work area, to produce a flow process analysis sheet. The learner will be required to identify and establish elements of waste and problems or conditions within the process where improvements can be made. The learner will need to evaluate and prioritise the opportunities for improvement, and to assist in this activity they will be required to produce a payback matrix.

The learner will also be expected to use the information gathered to define quantifiable objectives and targets for all the identified improvement activities, with an appropriate measure and timescale for their implementation. The flow process analysis will focus on establishing value added and non-value added activity.

Unit introduction

The learner's responsibilities will require them to comply with organisational policy and procedures for the activities undertaken, and to report any problems that they cannot solve, or that are outside their responsibility, to the relevant authority. The learner will be expected to take full responsibility for their own actions within the activity, and for the quality and accuracy of the work that they carry out.

The learner's knowledge will provide a good understanding of their work and will provide an informed approach to the techniques and procedures used. The learner will need to understand the principles and procedures of flow process analysis, and its application, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

Assessment

To achieve this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit through a variety of assessment methods appropriate to the delivery environment.

Unit Reference Number		M/503/5829
Qualification Framework		RQF
Title		Understanding the application of flow processes analysis
Unit Level		Level 3
Guided Learning Hours		20
Unit Credit Value		5
Unit Grading Structure		Pass / Fail

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1.0	Know the principles of flow process analysis	1.1	Explain flow process analysis
		1.2	Describe its use within a lean manufacturing environment
		1.3	Define value added and non-values added activities
2.0	Understand the benefits of flow process analysis	2.1	Explain the benefits of flow process analysis
		2.2	Explain how flow process analysis identifies value added and non value added activities
3.0	Know how prepare for a flow process analysis activity	3.1	Describe how flow process analysis is applied to a part/process to help identify where waste or problems/conditions occur
		3.2	Specify the symbols and abbreviations used in a flow process analysis sheet
		3.3	Describe how a flow process analysis sheet is constructed
4.0	Understand how to carry out a flow process analysis	4.1	Describe how to carry out a flow process analysis using the appropriate tools and techniques
		4.2	Describe how to provide a visual representation of a process using the appropriate process mapping techniques
5.0	Understand how to improve the process flow efficiency	5.1	Describe the type of improvements that can be made to a process
		5.2	Specify what implementation issues could arise as a result of the identified improvements
6.0	Understand how to evaluate the process flow efficiency	6.1	Describe how to produce a payback matrix or efficiency statement that prioritises and evaluates the improvement opportunities