www.highfieldqualifications.com

Qualification Specification

Highfield Level 2 NVQ Diploma in Business Improvement Techniques (RQF)

Qualification Number: 601/3200/0

Version 1.2 September 2019

Copyright © 2017. HABC Ltd. All rights reserved
Highfield House, Heavens Walk, Lakeside, Doncaster, South Yorkshire, DN4 5HZ, United Kingdom
Tel +44 08452260350 Tel +44 01302363277 Fax +44 08452260360

Contents

Introduction 3
Qualification regulation and support 3
Key facts 3
Qualification overview and objective 3
Entry requirements 3
Guidance on delivery 4
Guidance on assessment 4
Guidance on quality assurance 4
Recognition of prior learning (RPL) 5
Assessor requirements 5
Internal quality assurance (IQA) requirements 5
Reasonable adjustments and special considerations 6
ID requirements 6
Progression opportunities 6
Useful websites 6
Additional support/training 6
Appendix 1: Qualification structure 8
Appendix 2: Qualification content 10
Appendix 3: Sample assessment material 58

Highfield Level 2 NVQ Diploma in Business Improvement Techniques (RQF)

Introduction

This qualification specification is designed to outline all you need to know to offer this qualification at your centre. If you have any further questions, please contact your account manager

Qualification regulation and support

The Highfield Level 2 NVQ Diploma in Business Improvement Techniques (RQF) has been developed and is awarded by Highfield Qualifications and sits on the Regulated Qualifications Framework (RQF). The RQF is a qualification framework regulated by Ofqual and CCEA Regulation. The qualification is also regulated by Qualifications Wales.

Key facts

Qualification number:	601/3200/0
Learning aim reference:	60132000
Credit value:	56
Assessment method:	Portfolio of Evidence
Guided learning hours (GLH):	249
Total qualification time (TQT):	560

Qualification overview and objective

The objective of this qualification is to support a role in the workplace. This qualification has been designed for those learners who are making a contribution to the identification and implementation of business improvements such as:

- employees involved in business improvement within a team who wish to have their business improvement competencies assessed for certification purposes
- new employees who have undertaken business improvement training and are now acquiring experience within a team and wish to demonstrate their competencies for assessment purposes

This qualification is designed for those learners wishing to understand and use business improvement techniques. These techniques can be applied to a variety of sectors from manufacturing through to office-based roles and aims to reduce waste and improve efficiency within organisations.

It can be delivered as a standalone programme or as the competency element of the Business Improvement Techniques pathway of the Level 2 Intermediate Apprenticeship in Improving Operational Performance.

Entry requirements

These qualifications are approved for delivery to learners aged 16+.

It is recommended that learners should have a minimum of level 1 literacy and numeracy prior to enrolling on this qualification.

Guidance on delivery

The total qualification time for this qualification is 560 and of this 249 are recommended as guided learning hours.

TQT is an estimate of the total number of hours it would take an average learner to achieve and demonstrate the necessary level of attainment to be awarded with a qualification, both under direct supervision (forming guided learning hours) and without supervision (all other time). TQT and GLH values are advisory and assigned to a qualification as guidance.

Guidance on assessment

This qualification is assessed by portfolio of evidence which will be internally assessed and quality assured by the centre. Suggested paperwork is available to download on the Highfield Qualifications website. If a Centre would like to use alternative paperwork, this must be sent to the Quality Support team for approval before commencement of the course.

Please refer to the **SEMTA Business Improvement Techniques (B-IT) [NVQ Level 2, 3 and 4] Assessment Strategy** for guidance on simulation, realistic working environments and witness testimony. This is found on the Highfield Qualifications website.

SEMTA have developed Additional Assessment Guidance/Requirements for units within this qualification. These are outlined beneath the unit to which they relate within Appendix 2 of this qualification specification and must be referred to. There must be sufficient evidence to ensure that the learner can achieve the standard over a period of time in the workplace. This must be achieved through direct assessment by the assessor or through the use of authentic witness testimony.

Assessment using **simulation** or **replication** of the working environment is **only** acceptable in **unit 1**: **Complying with Statutory Regulations and Organisational Safety Requirements** in relation to the following two Assessment Criteria:

- *Assessment Criteria 1.5: Following organisational procedures in the event of fire and the evacuation of premises*
- *Assessment Criteria 1.8: Use correct manual lifting and carrying techniques*

Further evidence requirements and assessment guidance can be found within Appendix 3 of this qualification specification. This guidance is directly from SEMTA.

Centres must take all reasonable steps to avoid any part of the assessment of a learner (including any internal quality assurance and invigilation) being undertaken by any person who has a personal interest in the result of the assessment.

Guidance on quality assurance

Highfield Qualifications requires centres to have in place a robust mechanism for internal quality assurance of training delivery and internal assessment processes.

Highfield will support centres with quality assurance by conducting ongoing engagements to ensure and verify the effective and efficient delivery and assessment of the qualification.

Recognition of prior learning (RPL)

The 'Complying with statutory regulations and organisational safety requirements - A/601/5013 unit is contained within the following Highfield Qualification; therefore, learners can transfer the achievement of this unit to the qualifications listed below:

601/2684/X Highfield Level 2 NVQ Diploma in Performing Manufacturing Operations (RQF)

For further information on how centres can apply to use RPL as described above, please refer to the Recognition of Prior Learning (RPL) policy in the members' area of the Highfield Qualifications website. This policy should be read in conjunction with this specification and all other relevant Highfield Qualifications documentation.

Assessor requirements

Highfield require nominated assessors for this qualification meet the following:

- Hold a relevant subject area qualification or have experience, such as
  - Level 2 NVQ Diploma in Business Improvement Techniques (QCF) or equivalent
  - Proven industrial experience/technical competence* of the units being assessed
- Hold a recognised assessing qualification, which could include any of the following:
  - Level 3 Award in Assessing Competence in the Work Environment or equivalent
  - D32/33
- Maintain appropriate continued professional development for the subject area and regularly review their skills, knowledge and understanding to ensure that they are carrying out workplace assessment to the most up to date National Occupational Standards (NOS)

* Technical competence is defined as a combination of practical skills, knowledge, and the ability to apply both of these, in familiar and new situations, within a real working environment.

Please refer to the in **SEMTA Business Improvement Techniques (B-IT) [NVQ Level 2, 3 and 4] Assessment Strategy (V6. 23 Oct 2012)** for more information and to ensure suitability**.** This is available to download from the Highfield Qualifications website.

Internal quality assurance (IQA) requirements

Highfield require international quality assurers for this qualification meet the following:

- Hold a relevant subject area qualification or have experience, such as:
  - Level 2 NVQ Diploma in Business Improvement Techniques (QCF) or equivalent
  - Proven industrial experience/technical understanding** of the units being assessed
- Hold a recognised internal quality assurance qualification, which could include any of the following:
  - Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practices or equivalent (QCF) or equivalent
  - D34
  - V1
  - IQAs must be familiar with, and preferably hold, the QCF Level 3 Award in Assessing Competence in the Work Environment or equivalent.

** Technical understanding is defined as having a good understanding of the technical activities

being assessed, together with knowledge of relevant Health & Safety implications and requirements of the assessments.

Please refer to the **SEMTA Business Improvement Techniques (B-IT) [NVQ Level 2, 3 and 4] Assessment Strategy (V6. 23 Oct 2012)** for more information and to ensure suitability. This is available to download from the Highfield Qualifications website.

Reasonable adjustments and special considerations

Highfield Qualifications has measures in place for learners who require additional support. Please refer to Highfield Qualifications' Reasonable Adjustments Policy for further information/guidance.

ID requirements

It is the responsibility of the centre to have systems in place to ensure that the person taking an assessment is indeed the person they are claiming to be. All centres are therefore required to ensure that each learner's identification is checked before they undertake the assessment. Highfield Qualifications recommends the following as proof of a learner's identity:

- a valid passport (any nationality)
- a signed UK photocard driving licence
- a valid warrant card issued by HM forces or the police
- another photographic ID card, e.g. employee ID card, student ID card, travel card etc.

If a learner is unable to produce any of the forms of photographic identification listed above, a centre may accept another form of identification containing a signature, for example, a credit card. Identification by a third-party representative, such as a line manager, human resources manager or invigilator, will also be accepted.

For more information on learner ID requirements, please refer to Highfield Qualifications' Core Manual.

Progression opportunities

On successful completion of this qualification, learners may wish to continue their development by undertaking one of the following qualifications:

- Highfield Level 2 Certificate in Business Improvement Techniques (RQF)
- Level 3 NVQ Diploma in Business Improvement Techniques (RQF)
- Level 4 NVQ Diploma in Business Improvement Techniques (RQF)

Useful websites

SEMTA http://www.semta.org.uk

Additional support/training

The National Counter Terrorism Security Office (NaCTSO) is a police unit that works alongside the Home Office to support the 'protect and prepare' areas of the government's counterterrorism strategy. You can find information, advice and guidance on recognising, acting on and reporting suspicious behaviour on the following website: www.gov.uk/government/organisations/national-counterterrorism-security-office

As an apprentice you should access the free NaCTSO Action Counters Terrorism (ACT) Awareness e-learning course. This award-winning and invaluable training tool is essential in supporting your understanding of your role in recognising and preventing terrorism and what to do in the event of a terrorist attack.

To access the course:

- follow the link: http://ct.highfieldelearning.com/org/TheHighfieldGroup
- answer the questions
- click start

Appendix 1: Qualification structure

To complete the **Highfield Level 2 NVQ Diploma in Business Improvement Techniques (RQF),** learners must complete the following:

- **all units** contained within mandatory group
- a **minimum of 1 unit (9 credits)** from optional group

Mandatory group
Learners must achieve **all units** in this group

Unit No.	Unit reference	Unit title	Level	GLH	Credit
1	A/601/5013	Complying with statutory regulations and organisational safety requirements	2	35	5
2	J/600/2491	Contributing to effective team working	2	26	7
3	D/600/2514	Contributing to the development of visual management systems	2	41	9
4	L/600/2492	Contributing to the application of workplace organisation techniques	2	51	12
5	Y/600/2513	Contributing to the application of continuous improvement techniques _Kaizen	2	55	14

Optional Group
Learners must achieve a minimum of **1 unit** from this group.

Unit No.	Unit reference	Unit title	Level	GLH	Credit
6	A/600/2519	Contributing to the application of problem solving techniques	2	41	9
7	D/600/2545	Contributing to the application of failure modes and effects analysis _FMEA	2	41	11
8	F/600/2523	Contributing to the creation of standard operating procedures _SOP	2	41	9
9	F/600/2540	Contributing to the application of Six Sigma process mapping	2	55	14
10	H/600/2515	Contributing to the analysis and selection of parts for improvement	2	55	15
11	J/600/2538	Contributing to the application of Six Sigma methodology to a project	2	59	15
12	K/600/2516	Contributing to carrying out lead time analysis	2	41	10
13	J/600/2541	Contributing to the application of basic statistical analysis	2	52	13
14	K/600/2550	Carrying out mistake/error proofing_Poka Yoke	2	41	10
15	M/600/2517	Carrying out set-up reduction techniques	2	55	15
16	M/600/2548	Contributing to the application of measurement systems analysis _MSA	2	41	11
17	T/600/2518	Carrying out autonomous maintenance	2	52	13

18	T/600/2521	Carrying out flow process analysis	2	55	14
19	Y/600/2544	Contributing to the application of statistical process control _SPC_ procedures	2	41	9

Appendix 2: Qualification content

Unit 1: **Complying with statutory regulations and organisational safety requirements**
Unit number: A/601/5013
Credit: 5
GLH: 35
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Comply with statutory regulations and organisational safety requirements	1.1. Comply with their duties and obligations as defined in the Health and Safety at Work Act 1.2. Demonstrate their understanding of their duties and obligations to health and safety 1.3. Present themselves in the workplace suitably prepared for the activities to be undertaken 1.4. Follow organisational accident and emergency procedures 1.5. Comply with emergency requirements 1.6. Recognise and control hazards in the workplace 1.7. Identify the hazards and risks that are associated with the following: • their working environment • the equipment that they use • materials and substances (where appropriate) that they use • working practices that do not follow laid-down procedures 1.8. Use correct manual lifting and carrying techniques 1.9. Demonstrate one of the following methods of manual lifting and carrying: • lifting alone • with assistance of others • with mechanical assistance 1.10. Apply safe working practices and procedures
2. Know how to comply with statutory regulations and organisational safety requirements	2.1. Describe the roles and responsibilities of themselves and others under the Health and Safety at Work Act, and other current legislation 2.2. Describe the specific regulations and safe working practices and procedures that apply to their work activities 2.3. Describe the warning signs for the seven main groups of hazardous substances defined by Classification, Packaging and Labelling of Dangerous Substances Regulations 2.4. Explain how to locate relevant health and safety information for their tasks, and the sources of expert assistance when help is needed 2.5. Explain what constitutes a hazard in the workplace

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	2.6. Describe their responsibilities for identifying and dealing with hazards and reducing risks in the workplace 2.7. Describe the risks associated with their working environment 2.8. Describe the processes and procedures that are used to identify and rate the level of risk 2.9. Describe the first aid facilities that exist within their work area and within the organisation in general; the procedures to be followed in the case of accidents involving injury 2.10. Explain what constitute dangerous occurrences and hazardous malfunctions, and why these must be reported even if no-one is injured 2.11. Describe the procedures for sounding the emergency alarms, evacuation procedures and escape routes to be used, and the need to report their presence at the appropriate assembly point 2.12. Describe the organisational policy with regard to fire fighting procedures; the common causes of fire and what they can do to help prevent them 2.13. Describe the protective clothing and equipment that is available for their areas of activity 2.14. Explain how to safely lift and carry loads, and the manual and mechanical aids available 2.15. Explain how to prepare and maintain safe working areas; the standards and procedures to ensure good housekeeping 2.16. Describe the importance of safe storage of tools, equipment, materials and products 2.17. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
1.2 Demonstrate their understanding of their duties and obligations to health and safety by: – applying in principle their duties and responsibilities as an individual under the Health and Safety at Work Act – identifying, within their organisation, appropriate sources of information and guidance on health and safety issues, such as: ○ eye protection and personal protective equipment (PPE) ○ COSHH regulations ○ Risk assessments – identifying the warning signs and labels of the main groups of hazardous or dangerous substances – complying with the appropriate statutory regulations at all times

1.5 Comply with emergency requirements, to include:

- identifying the appropriate qualified first aiders and the location of first aid facilities
- identifying the procedures to be followed in the event of injury to themselves or others
- following organisational procedures in the event of fire and the evacuation of premises
- identifying the procedures to be followed in the event of dangerous occurrences or hazardous malfunctions of equipment

1.10 Apply safe working practices and procedures to include:

- maintaining a tidy workplace, with exits and gangways free from obstruction
- using equipment safely and only for the purpose intended
- observing organisational safety rules, signs and hazard warnings
- taking measures to protect others from any harm resulting from the work that they are carrying out

2.1 Describe the roles and responsibilities of themselves and others under the Health and Safety at Work Act, and other current legislation such as

- The Management of Health and Safety at Work Regulations
- Workplace Health and Safety and Welfare Regulations,
- Personal Protective Equipment at Work Regulations, Manual Handling Operations Regulations
- Provision and Use of Work Equipment Regulations
- Display Screen at Work Regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations

2.5 Explain what constitutes a hazard in the workplace, such as:

- moving parts of machinery
- electricity
- slippery and uneven surfaces
- poorly placed equipment
- dust and fumes
- handling and transporting
- contaminants and irritants
- material ejection
- fire
- working at height
- environment
- pressure/stored energy systems
- volatile
- flammable or toxic materials
- unshielded processes
- working in confined spaces

2.7 Describe the risks associated with their working environment such as the

- Tools
- materials and equipment that they use
- spillages of oil
- chemicals and other substances
- not reporting accidental breakages of tools or equipment
- not following laid-down working practices and procedures)

2.8 Describe the processes and procedures that are used to identify and rate the level of risk, such as

- safety inspections
- the use of hazard checklists
- carrying out risk assessments
- COSHH assessments

Normal day to day working and whatever the Improvement Project is that is being undertaken, must be conducted, observing Legal and Organisational Safety requirements. If, as part of the Improvement Project, a process has been changed, procedure has been changed, use of equipment introduced, changes of chemicals, line balancing and staff movement which may mean the need for additional training etc. etc, the risk assessment process must be re-visited to ensure that further and additional risks and hazards have not been created, under the pretext of a process being improved.

Assessment using **simulation** or **replication** of the working environment is **only** acceptable in this unit in relation to the following two Assessment Criteria:

- *Assessment Criteria 1.5: Following organisational procedures in the event of fire and the evacuation of premises*
- *Assessment Criteria 1.8: Use correct manual lifting and carrying techniques*

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://semta.org.uk/standards/qualifications

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 2: **Contributing to effective team working**
Unit number: J/600/2491
Credit: 7
GLH: 26
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to effective team working	1.1. Establish and maintain productive working relationships, using the key performance measures and communication processes available to them 1.2. Establish and maintain good working relationships with three of the following: • colleagues within their own workgroup • colleagues in other workgroups • immediate line management • those for whom they have responsibility • external contacts 1.3. Deal with disagreements in an amicable and constructive way, using relevant information and data to support views and arguments 1.4. Provide ideas and solutions to find ways of resolving issues that cause concern and disagreement 1.5. Use all relevant information available to them to keep others informed about work plans or activities which affect them 1.6. Communicate orally by three of the following: • question and answer sessions • team briefings • brainstorming sessions • problem resolution processes 1.7. Communicate in writing and/or electronically, to include three from the following: • maintaining up-to-date key performance indicators for the work area • adding ideas and actions to team boards • processing information • communicating via e-mail/internal network services • producing briefs or updates 1.8. Seek assistance from others in a polite, courteous way, without disturbing normal work activities 1.9. Respond in a timely and positive way, using data and information available when others ask for help or information
2. Know how to contribute to effective team working	2.1. Describe the importance of creating and maintaining effective working relationships 2.2. Describe the types of problem that can occur with working relationships

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	2.3. Explain how their own behaviour, dress and language can affect working relationships 2.4. Describe the actions that can be taken to deal with specific difficulties in working relationships 2.5. Describe the importance of challenging fixed ideas within the team 2.6. Explain how to challenge fixed ideas without causing problems with working relationships 2.7. Explain how to use data and information to help resolve concerns and disagreements 2.8. Describe from whom they should seek assistance when they have difficulties with working relationships 2.9. Describe the importance of sharing their knowledge, information and performance measures with other people in their team and with other groups 2.10. Explain how to use the data and information available to them to communicate their performance effectively to others 2.11. Describe the types of information and data available in their area 2.12. Describe the use of problem resolution processes and action planning; continuous improvement, brainstorming and the trialling of new ideas 2.13. Describe the mixture of skills and experience available in their team to support them or the process when problems occur (team skills matrix) 2.14. Explain why they need to keep others involved in any plans or activities that they may be doing 2.15. Describe the types of support or assistance that they might need from others 2.16. Describe the importance of being polite when requesting assistance 2.17. Describe the types of disruption that can be caused by inopportune requests for assistance 2.18. Describe the methods used in their area for effective communication 2.19. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
2.11 Describe the types of information and data available in their area such as key performance measures for – RFT – quality – target versus actual

- scrap
- OEE
- SPC

2.18 Describe the methods used in their area for effective communication such as team briefings covering

- team performance,
  - quality
  - cost
  - delivery
  - people;
- team boards for general information;
- process performance boards covering:
  - measures
  - graphs
  - action plans

A team can either be within a specific area of a factory, or it can be as part of a bigger team that has different parts to pay along the process. Effective teamwork includes being aware of what decisions and processes in your team, may well have a significant impact on the effectiveness of teams further down the process.

Part of Business Improvement is to ensure that a process that crosses for one team to another team is seamless and production doesn't hit any bottlenecks. It also includes effective communication and making sure that information is shared and easy to understand across different teams.

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 3: **Contributing to the development of visual management systems**
Unit number: D/600/2514
Credit: 9
GLH: 41
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the development of visual management systems	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Identify appropriate parts of the process or work area that will have visual controls 1.3. Identify the key performance indicators that will be displayed in the work area 1.4. Make recommendations for the production of, or changes to, standard operating procedures (SOPs), and visual controls that everyone works to within the area 1.5. Contribute to the development of visual management systems that promote four of the following: • health and safety • quality/zero defects • process concerns or corrective actions • performance measures • standard operating procedures • workplace organisation • skills matrices • autonomous maintenance worksheets • parts/material control systems • problem resolution (e.g. Kaizen boards) • shadow boards • standard work-in-progress (WIP) locations and quantities • planning systems • the delivery of effective meetings 1.6. Ensure the accuracy of the information submitted for visual managements systems meets with the company requirements
2. Know how to contribute to the development of visual management systems	2.1. Describe the health and safety requirements of the work area in which they are conducting the visual management activities 2.2. Describe the factors to be considered when selecting a visual management system 2.3. Describe the visual management systems available to create 'the visual factory'

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
	2.4. Describe the measures of performance in a lean business environment 2.5. Describe the measurement techniques required for communicating the visual management within an area and to others who may use the information 2.6. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further assessment guidance

2.3 Describe the visual management systems available to create 'the visual factory' such as using:

- kanban systems
- card systems
- colour coding
- floor footprints
- graphs
- team boards

Examples of a visual management systems include:

- Traffic lights - the simple use of three coloured lights has such a profound effect on people/vehicle movement for those who observe the lights and the colour meanings and serious and often fatal consequences caused by those who don't. These can also be on site to control the flow of traffic, but in some industrial applications, coloured lights, known as Andon lights, can be used to identify an area of part of a process where there are problems.
- Warning signs - colour coding, shape and symbols on warning signs, communicating a hazard or control measure in place. In traffic management system, the painting of pedestrian walkways denoting where pedestrians can walk and hopefully be safe from vehicles.
- Shadow-boards – which define where a specific tool needs to be stored, so it is easily located and contributes to workplace tidiness.
- Kanban system - where there is a visual mark/indicator warning when stock needs to be re-ordered/replenished.
- Company notice board – to communicate accident figures / performance / bonus / production or any other relevant information. It is important that it is easy understood by everyone and a simple tool of ensuring this is the inclusion of a simple key.

2.4 Describe the measures of performance in a lean business environment such as:

- health, safety and the environment,
- right first time
- cost
- delivery
- responsiveness
- process concerns and corrective actions
- performance measures
- workplace organisation

2.5 Describe the measurement techniques required for communicating the visual management within an area and to others who may use the information such as:

- target versus actual
- % right first time
- Pareto analysis
- bar charting
- action plans
- Paynter charts

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:

The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 4: **Contributing to the application of workplace organisation techniques**
Unit number: L/600/2492
Credit: 12
GLH: 51
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of workplace organisation techniques	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Use workplace organisation techniques within the chosen work area and establish and agree the area score 1.3. Identify where information, resources or equipment is missing or is in surplus and where improvements can be made 1.4. Make recommendations for the creation of, or changes to, standard operating procedures (SOPs), and visual controls that everyone works to within the area 1.5. Recommend the creation of or changes to standard operating procedures which cover two of the following: • cleaning of equipment/work area • maintenance of equipment • health and safety • process procedures • manufacturing operations/working processes • quality systems • regulatory compliance system 1.6. Recommend the creation of changes to visual controls, which cover two of the following: • shadow boards or an alternative (such a labelled racking and storage systems), to standardise the storage and location of area resources and/or equipment • colour coding • line status systems (such as line process system) • skills matrix • performance measures • process control boards • improvement systems • planning systems 1.7. Make agreed improvements to the workplace organisation and establish and agree the new improved area score

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
2. Know how to contribute to the application of workplace organisation techniques	2.1. Describe the health and safety requirements of the area in which they are carrying out the workplace organisation activity 2.2. Describe the factors to be considered when selecting a work area for an activity 2.3. Describe the procedure used to identify and address surplus or missing equipment or resources 2.4. Explain how to arrange and label the necessary resources or equipment for rapid identification and access 2.5. Explain how to make recommendations for the creation of, or changes to, standard operating procedures (SOPs) or other approved documentation 2.6. Explain how to score and audit the workplace organisation 2.7. Describe the techniques required to communicate information using visual systems 2.8. Describe the extent of their own authority, and to whom they should report to, in the event of problems that they cannot resolve

Further Assessment Guidance

2.2 Describe the factors to be considered when selecting a work area for an activity such as:

- Cleanliness
- health and safety
- product quality

2.3 Describe the procedure used to identify and address surplus or missing equipment or resources such as:

- carrying out a 'red tagging' exercise

2.7 Describe the techniques required to communicate information using visual systems such as:

- shadow boards
- performance charts
- KPIs

The most common tool for this is known as a 5S audit. There are variations on this, but in simple terms this is:

- SORT (Seiri) – The sorting out of useful items from those no longer needed. Red Tag exercise.
- STRAIGHTEN (Seiton) – "Everything in its pace and a place for everything". As detailed in the unit above on visual management, this could simply be a shadow board for a set of tools.
- SCRUB (Seiso) - literally clean and scrub the area.
- STANDARDISE (Seiketsu) – Planning and scheduling of regular application of the first three "S's".
- SUSTAIN (Shitsuke) – Ensure that 5S is the rule rather than the exception.

A 5S audit checks-sheet can be completed to benchmark exactly at what state an area is at. Once the 5S is completed, it should be audited again, to identify if and where, actual workplace organisational/tidiness improvement has been made.

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 5: **Contributing to the application of continuous improvement techniques _Kaizen_**
Unit number: Y/600/2513
Credit: 14
GLH: 55
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of continuous improvement techniques (Kaizen)	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Plan the Kaizen process for the agreed work area/activity to include plan, do, check, act 1.3. Use the established objectives and targets for the Kaizen activity 1.4. Carry out the Kaizen activity within the chosen work area/activity 1.5. Identify waste, problems or conditions within the work area or activity where improvements can be made 1.6. Identify improvements which cover three of the following: • reduction in cost • improved health and safety and/or working environment • improved quality • improved regulatory compliance • improvements to working practices • reduction in lead time • reduction in waste and/or energy usage • improved customer service • improved resource utilisation 1.7. Carry out a structured waste elimination activity, based on the identified wastes, problems or conditions 1.8. Make recommendations for the creation or changes to standard operating procedures (SOP's) or other approved documentation that will sustain the improvement made, resulting from the Kaizen activity 1.9. Identify and apply improvements, which cover two of the following: • cleaning of equipment or work area • maintenance of equipment • health and safety • process procedures • manufacturing operations or work area operations • quality system • regulatory compliance systems 1.10. Use the determined measure of performance for quality, cost and delivery

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	1.11. Use the determined measure of performance for quality, cost and delivery 1.12. Provide comparisons of the agreed work area/activity before and after the kaizen activity (to confirm improvements) using key performance indicators 1.13. Record and show business improvement, using one of the following key performance indicators: • not right first time (as a percentage or as parts per million (PPM)) • company-specific quality measure • delivery schedule achievement • company-specific delivery measure • parts per operator hour (PPOH) • production volume • value added per person (VAPP) • overall equipment effectiveness (OEE) • stock turns • floor space utilisation (FSU) • cost breakdown (such as labour, material, energy and overhead) • company-specific cost measure
2. Know how to contribute to the application of continuous improvement techniques (Kaizen)	2.1. Describe the health and safety requirements of the area in which they are carrying out the Kaizen activity 2.2. Explain how a work area/activity is selected for the Kaizen activity 2.3. Describe the principles for the deployment of Kaizen 2.4. Describe the eight wastes and how to eliminate them 2.5. Describe problem solving and root cause analysis 2.6. Describe the importance of fully understanding the process/activity under review, and how this will affect the quality of the problem solving 2.7. Describe the application of the Deming cycle (plan, do, check, act) 2.8. Explain how to carry out a Kaizen activity and establish measurable improvements 2.9. Explain how to distinguish facts from opinions, in order to identify improvement actions 2.10. Explain how improvements to the process are achieved by engaging the knowledge and experience of the people involved in the process 2.11. Explain how to encourage people to identify potential improvements 2.12. Explain how to evaluate improvement ideas, in order to select those that are to be pursued 2.13. Explain how quantifiable targets and objectives are set

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	2.14. Explain how to make recommendations for the creation of changes to standard operating procedures (SOPs) or other approved documentation 2.15. Describe the techniques used to visually communicate the work of the Kaizen activity to participants and others 2.16. Describe the application of the business' key measures of competitiveness 2.17. Explain how the cycle time of a process can be defined 2.18. Describe the techniques used to distribute work content to balance cycle times to the rate of customer demand, and how to visually represent it 2.19. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance

2.3 Describe the principles for the deployment of Kaizen such as:

- where a culture focuses on sustained continuous improvement,
- aiming at eliminating waste in all systems
- processes in the organisation and supply chain

2.4 Describe the eight wastes and how to eliminate them

- over-production
- inventory
- transport
- over-processing
- waiting time
- operator motion
- bad quality
- failure to exploit human potential

2.16 Describe the application of the business' key measures of competitiveness such as the former DTI's seven measures:

- delivered right first time
- delivery schedule achievement
- people productivity
- stock turns
- overall equipment effectiveness
- value added per person
- floor space utilisation

2.18 Describe the techniques used to distribute work content to balance cycle times to the rate of customer demand, and how to visually represent it

- e.g. line balance and process displays

There are many techniques used in the application of continuous improvement techniques, but the emphasis is on continuous.

If there has been a project undertaken to improve a process/system etc, then there is nothing wrong with conducting a further project to see if it can be further improved.
It is important however to benchmark the process, to see exactly how the situation is currently. This may be by the measuring of cycle time, Takt time, identifying where in the process (using a process flow chart and productivity needs analysis) waste is generated or where value is added.

There may be the need to carry out line balancing, where part of the process may simply need more man power than others.

Ishikawa diagrams, root causes, pareto charts are some of the many techniques used to identify where problems may be occurring. The cycle then of Plan-Do-Check -Act can be implemented where simply:
Plan – what possible actions need to be taken to try and improve the process/lessen the problem. Who is to be involved, timescales, goals, targets etc.
Do – when agreed the course of action, carry out the process changes.
Check – Measure and record, Are the changes having the desired positive effect?
Act – If yes to above, standardise/introduce procedures to try and keep the improvement sustained, with a view to future further improvement. If no, then consider what else needs to be done/changed and start again.

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 6: **Contributing to the application of problem solving techniques**
Unit number: A/600/2519
Credit: 9
GLH: 41
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of problem solving techniques	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Contribute to identifying the nature and extent of the problem, and to obtaining all relevant information relating to it 1.3. Support a structured approach to problem resolution 1.4. Participate in problem solving activities 1.5. Contribute to the identification of appropriate problem solving tools, and to applying them within a team focused environment 1.6. Contribute to the identification of the root cause of the problem and the determination of permanent corrective actions 1.7. Contribute to identifying the savings within the chosen problem solving activity 1.8. Contribute to ensuring that the corrective actions determined meet with organisational requirements 1.9. Contribute to obtaining the appropriate authority, and to the implementation of the agreed permanent corrective actions, within agreed timescales 1.10. Contribute to monitoring the problem resolution progress, and recording progress in the appropriate information systems
2. Know how to contribute to the application of problem solving techniques	2.1. Describe the business need for problem identification and removal 2.2. Describe the benefits of adopting a formalised problem solving process 2.3. Explain how to establish and select the team to be used for the problem-solving activity 2.4. Explain why there must be clearly defined roles within the team, and what these roles are (such as facilitator, scribe, timekeeper) 2.5. Explain how to formally define the problem, and the level of involvement required from others in the problem-solving process 2.6. Describe time line graphing, and how this is applied to the problem-solving process 2.7. Describe the importance of good data collection and analysis to support problem solving

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	2.8. Describe containment action planning (to include process risk, action planning, testing decisions, determining timescales and protecting the customer) 2.9. Explain how to identify and verify the root cause of a problem 2.10. Explain how to determine and select permanent corrective actions 2.11. Explain how to implement the permanent corrective actions identified 2.12. Explain how to prevent recurrence of the problems 2.13. Explain how to capture process improvement opportunities 2.14. Explain how to recognise the team's problem solving efforts, review the lessons learned and ensure that implementation has occurred 2.15. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance

1.4 Participate in problem solving activities, taking on one of the following key roles:

- facilitator
- timekeeper
- sourcing data and/or information required
- scribe

1.7 Contribute to identifying the savings within the chosen problem solving activity, **covering two of the following:**

- cost
- quality
- delivery or service
- responsiveness (lead time reduction, output or capacity)
- health and safety
- regulatory compliance

2.9 Explain how to identify and verify the root cause of a problem to include

- the use of brainstorming,
- the 5 'Why's,
- Ishikawa diagrams,
- testing decisions,
- verification techniques,
- root cause paths

2.12 Explain how to prevent recurrence of the problems to include

- changes to management systems,

- operating systems and procedures,
- the identification of opportunities for improvements

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 7: **Contributing to the application of failure modes and effects analysis _FMEA_**
Unit number: D/600/2545
Credit: 11
GLH: 41
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of failure modes and effects analysis (FMEA)	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Identify the key features of failure modes and effects analysis required for the activity under investigation 1.3. Contribute to the application of a failure modes and effects analysis on two of the following: • concept • product • design • process • system • machine 1.4. Contribute to identifying, for the activities analysed, all of the following: • the potential failure modes • the potential effects from failure modes • the potential causes of failure modes 1.5. Carry out, as a team member, the production of a failure modes and effects analysis 1.6. Record the information gathered in an appropriate format 1.7. Contribute to identifying and scoring of all of the following: • the likely occurrence of a potential failure modes • the severity of the potential failure modes • the likely hood of detection of the potential failure modes 1.8. Contribute to making valid judgements about the activity using failure modes and effects analysis principles 1.9. Contribute to calculating risk priority numbers (RPNs), identification of high RPNs, and develop actions to improve them 1.10. Contribute to establishing rating tables for all of the following: • occurrence • severity • detection 1.11. Make recommendations for the reassessment of an failure modes and effects analysis once actions have been completed, and to re-scoring severity, occurrence and detection

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
2. Know how to contribute to the application of failure modes and effects analysis (FMEA)	2.1. Describe the health and safety requirements of the area in which they are conducting the failure modes and effects analysis 2.2. Describe the main features and benefits of carrying out a failure modes and effects analysis 2.3. Describe who should be part of a team that constructs and updates a failure modes and effects analysis 2.4. Describe the meaning of a failure mode, failure effect or failure cause 2.5. Describe the rating scale used in failure modes and effects analysis projects (to include the severity rating scale, the occurrence rating scale and the detection rating scale) 2.6. Explain how to calculate a risk priority number (RPN) 2.7. Explain how to use the risk priority numbers 2.8. Describe the structured approach to risk reduction 2.9. Describe when to start a failure modes and effects analysis 2.10. Describe when to update a failure modes and effects analysis 2.11. Describe the roles of individuals within a failure modes and effects analysis team 2.12. Describe the extent of their own authority within the project, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 8: **Contributing to the creation of standard operating procedures _SOP_**
Unit number: F/600/2523
Credit: 9
GLH: 41
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the creation of standard operating procedures (SOP)	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Make recommendations to the production of standard operating procedures for one of the following: • cleaning of equipment • maintenance of equipment • health, safety and environmental practices and procedures • process procedures • manufacturing operations • quality improvements • improvements to customer satisfaction 1.3. Make recommendations to the production of standard operating procedures that include all of the following: • operation/process to be performed • part/product number and part/product description/operation reference • operation/process number • preparation activities prior to starting the operation/process • description of the full operation/process, broken down into appropriate tasks/activities • quality standards, health and safety requirements, environmental issues/requirements • tooling/ fixtures/gauges/equipment required • sketches/photographs/drawings that assist completion of the operation/process • date of first issue • originator of the document • latest revision date 1.4. Gather information of the current operation or process 1.5. Identify tools, equipment, fixtures, documentation and standards required 1.6. Make recommendations to the production of standard operating procedures in an agreed format, and monitor their use against the operation or process requirements

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	1.7. Make recommendations to the production of standard operating procedures that minimise all of the following: • time • effort • waste 1.8. Make recommendations to the revision of standard operating procedures, as appropriate, to ensure their effectiveness in the workplace 1.9. Confirm that the method defined will meet quality, productivity, health, safety and environmental requirements
2. Know how to contribute to the creation of standard operating procedures (SOP)	2.1. Describe the health and safety requirements of the area for which they are creating standard operating procedures (SOPs) 2.2. Describe the various documents used in creating standard operating procedures 2.3. Explain where to find the SOP documents to be used in their business 2.4. Describe the information that will be required to create a SOP 2.5. Explain how SOPs are structured, and the importance of their use 2.6. Describe methods of communicating to ensure that all the required information for the SOP is captured 2.7. Describe the operation/process to be captured in the SOP 2.8. Describe the link between SOPs and quality and continuous Improvement 2.9. Describe the eight wastes (over-production, inventory, transport, over-processing, waiting time, operator motion, bad quality, failure to exploit human potential), and how to eliminate them 2.10. Explain how to simplify work done, by eliminating waste and the potential for human error 2.11. Describe Takt time 2.12. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx **Specific unit requirements:**

The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 9: **Contributing to the application of Six Sigma process mapping**
Unit number: F/600/2540
Credit: 14
GLH: 55
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of Six Sigma process mapping	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Contribute to the selection of a suitable process on which to carry out the process mapping activity 1.3. Contribute to identifying the key stages that form the overall process under investigation 1.4. Contribute to the collection of data necessary to construct the Six Sigma process map 1.5. Contribute to the construction of the process map for the Six Sigma project 1.6. Contribute to the production of a process map, which identifies both: • the key process input variables • the key process output variables 1.7. Contribute to the classification of both the key process input variables and the key process output variables, as one or more of the following: • controllable • critical • noise • standard operating procedure 1.8. Contribute to the identification of value added and non-value added steps in a process 1.9. Contribute to identifying improvements to the process, as a result of the information gathered in the Six Sigma mapping activity 1.10. Contribute to the identification and adding to the process map, the specifications of both: • key process input variables • key process output variables

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
2. Know how to contribute to the application of Six Sigma process mapping	2.1. Describe the health and safety requirements of the area in which they are carrying out the process mapping activity 2.2. Describe the benefits of carrying out Six Sigma process mapping 2.3. Explain how to define a Six Sigma process map 2.4. Explain how the Six Sigma process map fits within a Six Sigma project 2.5. Describe the meanings of key process input variables and the key process output variables 2.6. Describe the data collection point for the key process input variables and the key process output variables (such as gauges, forms and samples) 2.7. Explain what the main types of key process input variables and the key process output variables are in terms of being controllable, critical, noise, or standard operating procedures 2.8. Describe the people who should create a Six Sigma process map 2.9. Describe the difference between a value added activity and a non-value added activity 2.10. Describe the roles of individuals within a process mapping team 2.11. Describe the extent of their own authority within the project, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx **Specific unit requirements:** The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate: • specific, quantifiable and auditable personal contributions in the achievement of this unit • competences in all the areas required by the unit • their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 10: Contributing to the analysis and selection of parts for improvement
Unit number: H/600/2515
Credit: 15
GLH: 55
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the analysis and selection of parts for improvement	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Obtain all the information, documentation and equipment required to carry out the activity 1.3. Select the representative parts for improvements within the chosen area/product range using information provided 1.4. Carry out an analysis against three of the following criteria: • customer schedules (volume) • cost of producing the part • profit for each part, as a percentage • manufacturing lead time • quality (scrap and non-conformance percentage) • process/manufacturing route 1.5. Make recommendations for the grouping of identified parts into appropriate part families 1.6. Make recommendations for the production of part families, using one of the following criteria: • part shape • part size • material used to manufacture the part • manufacturing process 1.7. Make recommendations for the production of a finalised list of the representative parts for the chosen area/product range
2. Know how to contribute to the analysis and selection of parts for improvement	2.1. Describe the health and safety requirements of the work area in which they are conducting the activity 2.2. Describe the information required to conduct the activity, and where and from whom the information can be found 2.3. Describe the principles and process of analysis (such as, pie charts, bar charts (Pareto analysis)) 2.4. Describe the techniques used to communicate the information and results gained by this process 2.5. Explain how to create and present bar graphs/histograms 2.6. Explain how to differentiate between lead-time and cycle-time 2.7. Explain how to differentiate between lead-time and cycle-time

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	2.7 Describe the bill of materials (BOM) structure for each of the representative parts 2.8 Explain how to identify the origin/source of the parts within the chosen area 2.9 Explain how to evaluate the information in order to select the representative parts for the chosen area 2.10 Describe the use of problem solving and root cause analysis techniques 2.11 Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx **Specific unit requirements:** The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate: • specific, quantifiable and auditable personal contributions in the achievement of this unit • competences in all the areas required by the unit • their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 11: Contributing to the application of Six Sigma methodology to a project
Unit number: J/600/2538
Credit: 15
GLH: 59
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of Six Sigma methodology to a project	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Contribute to applying the structured Six Sigma methodology and approach to the selected project 1.3. Contribute in Six Sigma projects which cover two the following: • manufacturing • quality level • administration 1.4. Contribute to utilising the five phases of Six Sigma within the project: • define • measure • analyse • improve • control 1.5. Contribute to identifying the Six Sigma organisational infrastructure, roles and responsibilities and business-specific metrics that would apply 1.6. Contribute to producing a diagram (family tree) of the Six Sigma organisational infrastructure and the roles of the following: • Champion • Mentor • Yellow Belt • Green Belt • Black Belt • Master Black Belt 1.7. Contribute to producing a metric chart for the Six Sigma projects undertaken, to include: • financial • quality • process 1.8. Contribute to identifying areas where the Six Sigma tools, techniques and activities can be applied 1.9. Contribute to identifying the Critical To Quality Characteristic (CTQC) of the projects, to include: • cost • quality • delivery

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	1.10. Contribute to the identification of the cost of poor quality, by identifying the defects per million opportunities (DPMO) 1.11. Contribute to relating defects per million opportunities to the sigma score and identifying the gap to Six Sigma performance
2. Know how to contribute to the application of Six Sigma methodology to a project	2.1. Describe the Six Sigma methodology and how it is applied to a project 2.2. Describe the Six Sigma infrastructure of the business 2.3. Describe the benefits that could arise from a Six Sigma project 2.4. Describe the parts per million opportunities goal of Six Sigma 2.5. Describe the calculation of defects per million opportunities 2.6. Describe the five phases of Six Sigma that are applied to a project 2.7. Explain how to define a Critical to Quality Characteristic (CTQC) 2.8. Explain how non-value added activity can serve as a 'roadblock' to achieving zero defect 2.9. Explain how to identify an 'Opportunity for Defect' 2.10. Describe the different roles of the key people in the Six Sigma process (Champion, Mentor, Master Black Belt, Black Belt, Green Belt and Yellow Belt) 2.11. Describe the relationship between key process input variables and key process output variables 2.12. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 12: **Contributing to carrying out lead time analysis**
Unit number: K/600/2516
Credit: 10
GLH: 41
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to carrying out lead time analysis	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Collect information/data for the production of a frequency diagram 1.3. Recommend quantifiable objectives and targets for the reduction in lead time of the chosen parts or processes 1.4. Carry out lead time analysis and create lead time profiles for all of the representative parts or processes chosen 1.5. Make recommendations to identify any waste, problems or conditions within the work area where improvements can be made 1.6. Contribute to the identification of improvement opportunities covering two of the following: • supply or delivery of parts • improved workflow • improved quality • flexibility of people • launch of material • inventory balancing 1.7. Make recommendations for the production of revised lead time profiles, identifying the improved process 1.8. Make recommendations for the production of a plan for the improvement activities and resources required with timescales to achieve the targeted lead time
2. Know how to contribute to carrying out lead time analysis	2.1. Describe the health and safety requirements of the work area in which they are conducting the activity 2.2. Describe from whom authority is gained for the release of the information required to create lead time profiles 2.3. Describe the information required to construct the lead time profiles, and where this information can be obtained 2.4. Explain how to create lead time profiles 2.5. Explain how to create frequency charts 2.6. Describe the techniques used to communicate the information and results obtained by this process 2.7. Explain how to differentiate between lead time and cycle time 2.8. Describe problem solving and root cause analysis (such as: Ishikawa diagrams, brainstorming) 2.9. Describe the extent of their authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx **Specific unit requirements:** The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate: • specific, quantifiable and auditable personal contributions in the achievement of this unit • competences in all the areas required by the unit • their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 13: **Contributing to the application of basic statistical analysis**
Unit number: J/600/2541
Credit: 13
GLH: 52
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of basic statistical analysis	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Consult with appropriate people and contribute to gathering the relevant data for statistical analysis 1.3. Contribute to the production of data gathering forms or charts to gather information, to enable statistical and graphical analysis to take place 1.4. Contribute to the recording of collected data, utilising two of the following methods: • bar charts • histograms • Pareto diagrams • stem and leaf diagrams • box plots • time series charts 1.5. Contribute to statistical and graphical analysis on a Six Sigma project 1.6. Contribute to the production of descriptive statistics of data, to include: • mean • median • mode • standard deviation • range and variance 1.7. Contribute to the production of a normal distribution, to assess a population from the representative sample 1.8. Contribute to the interpretation of the statistical data collected, in order to validate the pre-determined courses of action 1.9. Contribute to the production of an action plan, as a result of the statistical and graphical analysis undertaken

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
2. Know how to contribute to the application of basic statistical analysis	2.1. Describe the health and safety requirements of the area in which they are collecting data 2.2. Describe the meaning of the term 'variation' 2.3. Explain why a number of data points are needed to draw a statistically valid conclusion 2.4. Explain why we need to use basic statistics 2.5. Explain what is meant by the terms 'population' and 'sample' when applied to basic statistics 2.6. Describe distribution curves and the properties of a normal curve 2.7. Explain how to use charts and diagrams (such as bar charts, histograms, box plots, time series charts, Pareto diagrams, stem and leaf diagrams) 2.8. Explain how to calculate mean, median, mode, standard deviation, range and variance 2.9. Describe the difference between descriptive and inferential statistics 2.10. Describe the extent of their own authority within the project, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 14: **Carrying out mistake/error proofing _Poka Yoke_**
Unit number: K/600/2550
Credit: 10
GLH: 41
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Carry out mistake/error proofing (Poka Yoke)	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Use information and data to make recommendations for a suitable process on which to carry out mistake/error proofing 1.3. Carry out the mistake/error proofing process to the chosen activity 1.4. Analyse the data received and make recommendations for inclusion in the worksheet 1.5. Create a worksheet of the mistake/error proofing activity, identifying: • the description of the mistake/error identified • the containment action taken • the root cause of the mistake/error • the permanent corrective action to be taken 1.6. Use the worksheet to identify the root cause of the problem 1.7. Recommend potential solutions and carry out agreed trials to measure the effectiveness of the solution 1.8. Identify suitable solutions, and determine their: • effectiveness • cost • complexity 1.9. Implement the optimum solution 1.10. Gather information/data for the measurement and documentation of results from the activity 1.11. Identify the benefits of mistake/error proofing in terms of: • improved quality/compliance (such as ISO9001 and EFQM) • reduced costs • delivery or service

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
2. Know how to carry out mistake/error proofing (Poka Yoke)	2.1. Describe mistake/error proofing, and the benefits of carrying this out 2.2. Describe the difference and benefits between mistake/error proofing and prevention and detection 2.3. Describe the selection criteria used to determine a suitable product or process on which to carry out the mistake/error proofing activity 2.4. Explain how mistake/error proofing can lead to zero defects 2.5. Describe the difference between errors and defects 2.6. Describe the different types of mistake 2.7. Explain how defects originate in products or processes 2.8. Explain how the role of source inspection contributes to the reduction of defects 2.9. Describe the use of mistake/error proofing (Poka Yoke) tools (such as cause and effect, the 5 'why's) 2.10. Describe the types of mistake/error proofing documentation 2.11. Explain how to undertake trials and measure the effectiveness of mistake/error proofing projects 2.12. Describe the different types of mistake proofing devices available 2.13. Describe the roles and responsibilities of individuals within a mistake/error proofing team (including facilitator, timekeeper, scribe 2.14. Describe the extent of their own authority within the activity, and to whom they should report in the event of problems that they cannot resolve)

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx Specific unit requirements: The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate: • specific, quantifiable and auditable personal contributions in the achievement of this unit • competences in all the areas required by the unit • their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 15: **Carrying out set-up reduction techniques**
Unit number: M/600/2517
Credit: 15
GLH: 55
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Carry out set-up reduction techniques	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Use the given information to carry out set-up reduction activity on the chosen machine or process, using the appropriate techniques 1.3. Identify problems or conditions within the current set-up, where improvements can be made 1.4. Make recommendations for quantifiable objectives/targets for improvements to the set-up chosen 1.5. Carry out improvements to the current set-up which cover three of the following: • reduced set-up time • improved safety • improved quality • improved work practice • improved regulatory compliance • reduced cost 1.6. Carry out improvements to the current set-up to meet the identified objectives and targets 1.7. Make recommendations for the creation of or changes to standard operating procedures (SOPs) or other approved documentation that will sustain the improvements made to the set-up requirements 1.8. Identify and apply improvements to the new set-up, which cover three of the following: • all of the new steps, and 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) • information required for a quick set-up and its location (such as CNC programs, drawings and manufacturing instructions) • methods and standards • documentation for co-ordination control

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
2. Know how to carry out set-up reduction techniques	2.1. Describe the health and safety requirements of the area in which you are carrying out the set-up reduction activities 2.2. Explain why a machine or process is selected for a set-up reduction activity 2.3. Describe from whom authority is gained for the release of people and resources for the set-up reduction activity 2.4. Describe the application of the Deming cycle (plan, do, check, act) 2.5. Describe the processes for carrying out a set-up reduction activity 2.6. Explain how improvements to the set-up can be achieved 2.7. Describe the need to evaluate improvement ideas and select those that will give most benefit for the least spend 2.8. Describe the need for quantifiable targets and objectives for the improved set-up 2.9. Explain how to correlate information to create or update standard operating procedures (SOPs) or other approved documentation for the revised set-up 2.10. Describe the need to distinguish between internal and external activities, with reference to set-up 2.11. Describe the difference between 'motion' and 'work' 2.12. Describe what constitutes a value adding and non-value adding activity 2.13. Describe the extent of your own authority, and to whom you should report in the event of problems that you cannot resolve

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx **Specific unit requirements:** The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate: • specific, quantifiable and auditable personal contributions in the achievement of this unit • competences in all the areas required by the unit • their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 16: **Contributing to the application of measurement systems analysis _MSA_**
Unit number: M/600/2548
Credit: 11
GLH: 41
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of measurement systems analysis (MSA)	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Contribute to the selection of an appropriate measurement system on which to carry out the analysis 1.3. Contribute to a measurement system analysis, which includes two from the following: • completing a calibration study on a gauge • conducting a gauge linearity study • completing either an attribute or a variable gauge repeatability and reproducibility study • conducting a metrology study on a measurement system, which includes either a variable or attribute gauge repeatability and reproducibility 1.4. Determine the type of measurement system variation, to include two of the following: • bias • linearity • stability • accuracy • repeatability • reproducibility 1.5. Contribute to obtaining all the necessary data in order to carry out the measurement systems analysis 1.6. Contribute to the analysis, using the appropriate techniques 1.7. Record the results of the analysis in the appropriate format 1.8. Contribute to determining the percentage gauge repeatability and reproducibility of the measurement system under study, and to suggesting ways of improving the measurement system 1.9. Contribute to the production of a measurement systems analysis report, detailing ways of improving the measurement system under study

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
2. Know how to contribute to the application of measurement systems analysis (MSA)	2.1. Describe the health and safety requirements of the area in which they are carrying out the measurement systems analysis 2.2. Explain why we should study our measurement systems 2.3. Explain how to select a measurement system for analysis 2.4. Describe the possible sources of measurement system variation 2.5. Explain how measurement systems analysis be used in a Six Sigma improvement project 2.6. Describe the meaning of 'repeatability and reproducibility study' 2.7. Describe the terminology used in measurement systems analysis (such as bias, linearity, stability, accuracy, repeatability, discrimination, resolution, reproducibility) 2.8. Explain how to conduct a measurement systems analysis study 2.9. Describe the calculation for gauge repeatability and reproducibility 2.10. Describe the calculation for gauge precision and tolerance 2.11. Describe the industry rules for repeatability and reproducibility results 2.12. Describe the extent of their own authority within the project, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx **Specific unit requirements:** The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate: • specific, quantifiable and auditable personal contributions in the achievement of this unit • competences in all the areas required by the unit • their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 17: **Carrying out autonomous maintenance**
Unit number: T/600/2518
Credit: 13
GLH: 52
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Carry out autonomous maintenance	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Seek approval for use of the appropriate asset on which to carry out the autonomous maintenance activity 1.3. Carry out autonomous maintenance on at least one asset from the following: • plant and equipment • machines • office equipment • service equipment • utilities 1.4. Use the given information to carry out the activity 1.5. Carry out the autonomous maintenance activity by applying the appropriate techniques 1.6. Carry out the autonomous maintenance process and show how one of the following is undertaken: • assess criticality of equipment/process condition and identify refurbishment needs • identify an integrated asset care plan for both operator and maintenance staff 1.7. Use the Overall Equipment Effectiveness (OEE) measure and information to determine which elements of the OEE and their associated losses need improvement 1.8. Use information relating to all of the following: • load or demand • capacity • Takt time or bottleneck analysis 1.9. Use an action plan that which will reduce/eliminate the losses and hence improve the Overall Equipment Effectiveness 1.10. Implement improvements to working practices through autonomous maintenance •

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
	1.11. Show improvements to working practices through two of the following: • initial cleaning • countermeasures for cause and effect of dust and dirt • cleaning and lubrication standards • general inspection • autonomous inspection • workplace organisation • full-circle implementation of autonomous maintenance
2. Know how to carry out autonomous maintenance	2.1. Describe the health and safety requirements of the area in which they are carrying out the autonomous maintenance activities 2.2. Describe the principles of autonomous maintenance (front line asset care) as a part of total productive maintenance, and how they can be applied in administration procedures, safety improvement and quality maintenance 2.3. Explain how to select an asset on which to carry out the activity (assets could be plant and equipment, machines, office equipment, service equipment, utilities) 2.4. Describe the systematic and structured approach to carrying out autonomous maintenance 2.5. Describe the difference between a chronic and sporadic loss 2.6. Explain why is it necessary to calculate overall equipment effectiveness (OEE) 2.7. Describe the benefits of having an autonomous maintenance system 2.8. Describe the importance of taking ownership of the autonomous maintenance system 2.9. Describe the six major losses 2.10. Describe the use of standard operating procedures, single point lessons and machine/process start-up and shutdown procedures 2.11. Describe an awareness of the improvement activities that will drive the implementation of the autonomous maintenance activities (Kaizen and team working) 2.12. Describe critical processes and early problem detection steps 2.13. Describe loss areas and opportunities for improvement 2.14. Describe standards of wear 2.15. Describe the techniques of visual management used to communicate the information and results obtained by this process (including autonomous maintenance activity boards and checklists)

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	2.16. Describe the integration with workplace organisation and improving OEE 2.17. Describe contaminants and sources of contaminants 2.18. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance

This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx

Specific unit requirements:
The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate:

- specific, quantifiable and auditable personal contributions in the achievement of this unit
- competences in all the areas required by the unit
- their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 18: Carrying out flow process analysis
Unit number: T/600/2521
Credit: 14
GLH: 55
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Carry out flow process analysis	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Map the current process flow analysis within a given work area 1.3. Make recommendations where improvements can be made by establishing value added and non value added activities 1.4. Evaluate the opportunities for improvement and prioritise these using suitable criteria 1.5. Make recommendations to the analysis of the data obtained above into: • non-value added activity • value added activity 1.6. Make recommendations for quantifiable objectives and targets for all the defined improvement activities 1.7. Make recommendations to the creation of an action plan covering both of the following: • eliminates non-value added activity • simplifies value added activity
2. Know how to carry out flow process analysis	2.1. Describe the health and safety requirements of the area in which they are carrying out the flow process analysis 2.2. Describe the need to describe a process in its elements/activities of work 2.3. Describe the eight forms of waste within a working environment 2.4. Describe the symbols and abbreviations used for flow process analysis (such as those defined by the American Standard for Methods Engineering (ASME)) (to include operation, inspection, transport, waiting, storage) 2.5. Explain how to map out a process or deployment flowchart, using the recognised symbols 2.6. Describe the difference between value-added and non-value added activities 2.7. Explain how to establish which elements/activities in the process are value added or non-value added 2.8. Explain how to identify opportunities for improvements to the process 2.9. Describe the need to use data to eliminate activities that do not add value to the process

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	2.10. Explain how to construct an action plan that will simplify the value added activities and eliminate the non-value added activities 2.11. Describe the purpose of an action plan (such as payback matrix) 2.12. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx **Specific unit requirements:** The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate: • specific, quantifiable and auditable personal contributions in the achievement of this unit • competences in all the areas required by the unit • their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Unit 19: **Contributing to the application of statistical process control _SPC_ procedures**
Unit number: Y/600/2544
Credit: 9
GLH: 41
Level: 2

Learning Outcomes	Assessment Criteria
The learner will	***The learner can***
1. Contribute to the application of statistical process control (SPC) procedures	1.1. Work safely at all times, complying with health and safety and other relevant regulations and guidelines 1.2. Work to, and comply with all the required process monitoring documentation and work instruction sheets 1.3. Contribute to selecting and/or confirming the process on which the process analysis is to be carried out 1.4. Contribute to the consultation with relevant people and gathering of the necessary data for analysis 1.5. Apply the principles and contribute to the processes of statistical process control to the chosen process 1.6. Contribute to basic statistical process control, using appropriate tools and techniques 1.7. Contribute to statistical and graphical methods to represent the process conditions 1.8. Contribute to the calculation of the capability of the process, and the identification of both: • Cp • Cpk 1.9. Contribute to the production of charts for process and control information, to include two from: • simple run charts • tally charts • bar charts • histograms • box plots • time series charts • Pareto diagrams • stem and leaf plots • run charts 1.10. Contribute to the identification of activities that will improve the process performance 1.11. Contribute to the production of an action plan to implement the improvements
2. Know how to contribute to the application of statistical process control (SPC) procedures	2.1. Describe the health and safety requirements of the area in which they are carrying out the process control activities 2.2. Explain where process control fits in within a continuous improvement environment 2.3. Explain how process performance affects customer satisfaction and process costs 2.4. Explain where and why statistical process control is used

Learning Outcomes	Assessment Criteria
The learner will	*The learner can*
	2.5. Describe the importance of standardisation within a process operation, and why process performance can only be determined when it is controlled 2.6. Explain how process control can improve process performance 2.7. Describe the benefits of prevention versus detection 2.8. Describe the two types of variation within a process (common cause, special cause) 2.9. Explain how to gather data and effectively analyse it, understanding how the data can be used to communicate abnormalities within a process 2.10. Describe the main types of control charts used for SPC 2.11. Explain what is meant by a 'population' and a 'sample' 2.12. Describe the measurements of central tendency and variability 2.13. Describe the properties of a normal curve of distribution 2.14. Describe the terms mean, median, mode, standard deviation, range and variance 2.15. Describe process capability (Cp and Cpk) 2.16. Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve

Further Assessment Guidance
This unit must be assessed in accordance with the 'Common Requirements for NVQs in the QCF' and 'Additional B-IT assessment requirements' both can be found at Semta's website: http://www.semta.org.uk/training_providers__awarding/national_occupational_standard/qca_assessment_requirements.aspx **Specific unit requirements:** The word 'contribute' is used within this unit. This means that, although the outcomes of this unit may be carried out and achieved as part of a team, in order to prove consistent competent performance the learner must be able to demonstrate: • specific, quantifiable and auditable personal contributions in the achievement of this unit • competences in all the areas required by the unit • their ability to combine the assessment criteria specified when contributing to the application of the principles and processes of this unit

Appendix 3: Sample assessment material

This is an evidence tracking sheet taken from the Assessment Pack, available in the download area.

Evidence Tracking Sheet

Mandatory Units

Learner Name	
Centre Name	

Mandatory Unit 1: Complying with statutory regulations and organisational safety requirements (A/601/5013)				
Assessment Criteria				
Learning Outcome	**Assessment Criteria**	**Evidence Type**	**Evidence Reference**	**Date**
1 Comply with statutory regulations and organisational safety requirements	1.1 Comply with their duties and obligations as defined in the Health and Safety at Work Act			
	1.2 Demonstrate their understanding of their duties and obligations to health and safety by: • applying in principle their duties and responsibilities as an individual under the Health and Safety at Work Act • identifying, within their organisation, appropriate sources of information and guidance on health and safety issues, such as: – eye protection and personal protective equipment (PPE) – COSHH regulations – Risk assessments • identifying the warning signs and labels of the main groups of hazardous or dangerous substances • complying with the appropriate statutory regulations at all times			

Assessment method key:

Obs	Observation	Wt	Witness testimony
Ps	Product evidence	R	RPL
Q	Questioning	O	Other
Sim	Simulation/assignment	PD	Professional Discussion

Learner Signature		**Date:**	
Assessor Signature		**Date:**	
IQA Signature (if sampled)		**Date:**	
EQS Signature (if sampled)		**Date:**	