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Qualification Specification

Highfield Level 2 NVQ Diploma in Performing Manufacturing Operations (RQF)

Qualification Number: 601/2684/X

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Highfield Level 2 NVQ Diploma in Performing Manufacturing Operations (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 Performing Manufacturing Operations (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:	601/2684/X
Learning aim reference:	6012684X
Credit value:	48
Assessment method:	Portfolio of evidence
Guided learning hours (GLH):	216
Total qualification time (TQT):	480

Qualification overview and objective

The objective of this qualification is to support a role in the workplace. Learners would typically be employed in semi-skilled or operator level as manufacturing process operators, production inspectors, maintenance operators or assembly operators of electronic products, vehicles, aerospace or production of moulded products, and others.

This qualification is designed for those learners working with a range of manufacturing industries and provides recognition of their skills. It will enable individuals to demonstrate competence in their job roles and to develop the essential work-based skills required to work effectively in the manufacturing industry.

This qualification forms the competency component of the Performing Manufacturing Operations pathway of the Intermediate Level Apprenticeship in Improving Operational Performance.

Entry requirements

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

It is recommended that learners have a minimum of level 1 English and maths prior to enrolling on this qualification.

Guidance on delivery

The total qualification time for this qualification is 480 hours and of this 216 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.

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:

601/3200/0 Highfield Level 2 NVQ Diploma in Business Improvement Techniques (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 Performing Manufacturing Operations (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 **Performing Manufacturing Operations Assessment Strategy (V2 – 1st Jan 2011)** 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 assessors for this qualification meet the following:

- Hold a relevant subject area qualification or have experience, such as:
 - Level 2 NVQ Diploma in Performing Manufacturing Operations (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.
- 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 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 **Performing Manufacturing Operations Assessment Strategy (V2 – 1st Jan 2011)** for more information and to ensure suitability. This is available to download from the Highfield Qualifications website.

Countersigning Strategy

While it is a minimum requirement for centres to have the appropriately qualified workforce in place, it is understood that centres may have new personnel that are working towards those requirements. During this period, centres are required to have a robust countersigning strategy in place that supports and validates unqualified assessment/quality assurance decisions, until the point where they meet the requirements as detailed above.

Mapping to National Occupational Standards (NOS)

This qualification maps to the National Occupational Standards for Performing Manufacturing Operations.

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 Lean Organisation Management Techniques (RQF)
 - Highfield Level 2 NVQ Diploma in Business Improvement Techniques (RQF)
 - Highfield Level 2 Certificate in Business Improvement Techniques (RQF)
-

Useful websites

- SEMTA <http://www.semta.org.uk>
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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 Performing Manufacturing Operations (RQF)**, learners must complete the following:

- **one unit** in the mandatory group totaling **5 credits**
- a **minimum of 5 credits** from Optional Group A
- a **minimum of 25 credits** from Optional Group B from a **minimum of 3 units**
- a **minimum of 13 credits** from Optional Group C

Mandatory group

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

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

Optional group A

Learners must achieve a minimum of **5 credits** from this group

Unit number	Unit reference	Unit title	Level	GLH	Credit
2	R/601/3008	Promoting effective working relationships	2	30	5
3	T/601/3101	Contributing to effective team working	2	30	6

Optional Group B

Learners must achieve a minimum of **25 credits** from this group from a minimum of 3 units.

Unit number	Unit reference	Unit title	Level	GLH	Credit
4*	Y/601/3009	Transferring materials	2	53	13
5	L/601/3010	Preparing for manufacturing operations	2	42	9
6*	Y/601/3012	Concluding manufacturing operations	2	42	9
7*	H/601/3014	Ensuring effective handover of manufacturing operations	2	42	9
8	T/601/3017	Receiving and checking incoming materials	2	42	9
9	M/601/3095	Controlling manufacturing operations	2	42	19
10	A/601/3097	Contributing to improving effectiveness in the workplace	2	35	8
11*	J/601/3099	Analysing the results of inspection and confirming quality of production	2	35	14
12	K/601/3113	Recording and reporting inspection and test results	2	39	8

* See barred combination

Optional Group C

Learners must achieve a minimum of **13 credits** from this group.

Unit number	Unit reference	Unit title	Level	GLH	Credit
13	R/601/3025	Producing shaped products	2	60	18
14	A/601/3035	Producing products by assembly operations	2	60	18
15	R/601/3039	Producing joined products	2	60	17
16	F/601/3067	Producing products by processing	2	60	17
17	T/601/3079	Producing formed products	2	60	18
18	M/601/3081	Finishing products	2	60	17
19	J/601/3085	Producing moulded products	2	60	18
20	D/601/3089	Producing packaged products	2	60	15
21	R/601/3090	Making products using computer controlled equipment	2	67	18
22	H/601/3093	Manufacturing products using combined manufacturing operations	2	67	18
23	H/601/3112	Carrying out inspection and testing activities	2	53	16
4*	Y/601/3009	Transferring materials	2	53	13
11*	J/601/3099	Analysing the results of inspection and confirming quality of production	2	35	14

* See barred combinations below.

Barred Combinations

If learners select one of the following units, the other must not also be chosen.					
Unit number	Unit reference	Unit title	Level	GLH	Credit
6	Y/601/3012	Concluding manufacturing operations	2	42	9
7	H/601/3014	Ensuring effective handover of manufacturing operations	2	42	9

If learners select one or both of the following units from Group B it cannot count towards the credit gained from Group C.

If learners select one or both of the following units from Group C it cannot count towards the credit gained from Group B.

Unit number	Unit reference	Unit title	Level	GLH	Credit
4	Y/601/3009	Transferring materials	2	53	13
11	J/601/3099	Analysing the results of inspection and confirming quality of production	2	35	14

The overall credit value of the qualification has been determined by the TQT value, therefore, it should be noted that the aggregated unit credit values do not necessarily replicate the overall qualification credit value. This is due to differences that naturally occur when unit credit values are rounded to their nearest whole number.

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
<i>The learner will</i>	<i>The learner can</i>
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 and other current legislation 1.2 Demonstrate their understanding of their duties and obligations to health and safety by: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> – 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 1.3 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, to include: <ul style="list-style-type: none"> • 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 1.6 Recognise and control hazards in the workplace 1.7 Identify the hazards and risks that are associated with the following:

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<ul style="list-style-type: none"> • 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 <p>1.8 Use correct manual lifting and carrying techniques</p> <p>1.9 Demonstrate one of the following methods of manual lifting and carrying:</p> <ul style="list-style-type: none"> • lifting alone • with assistance of others • with mechanical assistance <p>1.10 Apply safe working practices and procedures to include:</p> <ul style="list-style-type: none"> • 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
<p>2. Know how to comply with statutory regulations and organisational safety requirements</p>	<p>2.1 Describe the roles and responsibilities of themselves and others under the Health and Safety at Work Act, and other current legislation</p> <p>2.2 Describe the specific regulations and safe working practices and procedures that apply to their work activities</p> <p>2.3 Describe the warning signs for the seven main groups of hazardous substances defined by Classification, Packaging and Labelling of Dangerous Substances Regulations</p> <p>2.4 Explain how to locate relevant health and safety information for their tasks, and the sources of expert assistance when help is needed</p> <p>2.5 Explain what constitutes a hazard in the workplace</p> <p>2.6 Describe their responsibilities for identifying and dealing with hazards and reducing risks in the workplace</p> <p>2.7 Describe the risks associated with their working environment</p> <p>2.8 Describe the processes and procedures that are used to identify and rate the level of risk</p> <p>2.9 Describe the first aid facilities that exist within their work area and within the organisation in general;</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>the procedures to be followed in the case of accidents involving injury</p> <p>2.10 Explain what constitute dangerous occurrences and hazardous malfunctions, and why these must be reported even if no-one is injured</p> <p>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</p> <p>2.12 Describe the organisational policy with regard to firefighting procedures; the common causes of fire and what they can do to help prevent them</p> <p>2.13 Describe the protective clothing and equipment that is available for their areas of activity</p> <p>2.14 Explain how to safely lift and carry loads, and the manual and mechanical aids available</p> <p>2.15 Explain how to prepare and maintain safe working areas; the standards and procedures to ensure good housekeeping</p> <p>2.16 Describe the importance of safe storage of tools, equipment, materials and products</p> <p>2.17 Describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve</p>

Further Assessment Guidance
<p>2.1 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)</p> <p>2.5 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)</p> <p>2.7 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 and not following laid-down working practices and procedures)</p> <p>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)</p>

Unit 2: Promoting effective working relationships

Unit number: R/601/3008

Credit: 5

GLH: 30

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Promote effective working relationships</p>	<p>1.1 Present themselves in the workplace on time and in a way that does not cause concern to others</p> <p>1.2 Promote and maintain working relationships with three of the following:</p> <ul style="list-style-type: none"> • immediate supervision/line management • colleagues in same work group • colleagues in other work groups • personnel in other departments (such as those supplying inputs or receiving outputs) • managers and supervisors in other departments <p>1.3 Ask for information, advice and/or help politely, without causing disruption to their own or others work</p> <p>1.4 Offer help and information to others promptly and willingly</p> <p>1.5 Respect the views, rights and property of others</p> <p>1.6 Identify problems in working relationships</p> <p>1.7 Discuss problems which may affect working relationships with the appropriate person to include two of the following:</p> <ul style="list-style-type: none"> • work colleagues • supervisor • line manager • team leader • personnel or welfare officer <p>1.8 Deal with problems in working relationships in ways which minimise offence and maintain the mutual respect of others to include two of the following;</p> <ul style="list-style-type: none"> • work related issues • personal issues • communication problems <p>1.9 Make sure that any actions that they take are within the limits of their own responsibility and authority</p> <p>1.10 Refer requests for information and/or assistance that are outside their authority/responsibility to the appropriate person</p> <p>1.11 Resolve disagreements and difficulties in working relationships with the appropriate person</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	1.12 Communicate in a manner which promotes understanding, goodwill and trust 1.13 Maintain effective communication using two of the following methods: <ul style="list-style-type: none"> • in writing • electronically • orally
2 Know how to promote effective working relationships	2.1 Describe the statutory regulations that can affect working relationship i.e., Disability, Equal Opportunities, Discrimination, Harassment 2.2 Explain why it is important to present themselves in the workplace on time and ready for work 2.3 Explain the methods in their organisation that can be used to gain information, advice and help 2.4 Explain the methods that can be used to establish and maintain good working relationships 2.5 Explain what might affect good working relationships 2.6 Explain how to identify problems in working relationships 2.7 Explain the methods of handling and resolving problems in working relationships 2.8 Explain why it is important to resolve difficulties or misunderstandings quickly and not let them develop into more serious problems 2.9 Explain how to identify and use different methods and styles of communication 2.10 Explain why it is important to avoid disruption in the workplace, and methods of avoiding it 2.11 Explain why it is important to request help from others in a polite and timely manner and to offer assistance to others when help is needed 2.12 Explain why it is important to show respect for the views, rights and property of others 2.13 Explain who to refer to with requests that are not within the limits of their responsibility 2.14 Explain who to refer to if they have problems with working relationships that they cannot resolve 2.15 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.16 Explain what are the responsibilities of the people identified in assessment criteria and above

Additional Assessment Guidance
The use of simulation within a realistic working environment is acceptable for assessment criteria 1.6, 1.7, 1.8, 1.10, 1.11.

Unit 3: Contributing to effective team working

Unit number: T/601/3101
 Credit: 6
 GLH: 30
 Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Contribute to effective team working</p>	<p>1.1 Present themselves in the workplace on time and in a way that does not cause concern to other team members</p> <p>1.2 Develop and maintain team working relationships with two of the following:</p> <ul style="list-style-type: none"> • immediate supervision/line management • colleagues in same work group • colleagues in other work groups • those for whom they have responsibility • personnel in other departments • external contacts <p>1.3 Work in accordance with the roles and responsibilities identified for their individual and team activities</p> <p>1.4 Make sure that any actions that they take are within the limits of their own responsibility and authority</p> <p>1.5 Ask for information, advice and/or help politely, without causing disruption to their own or other team members work</p> <p>1.6 Offer help to others promptly and willingly in order to ensure team objectives are met</p> <p>1.7 Contribute to team discussion/briefing sessions in a positive manner that shows respect for the views and rights of others</p> <p>1.8 Deal with problems in team relationships in ways which minimise offence and maintain mutual respect</p> <p>1.9 Discuss problems which may affect team relationships with the appropriate person to include two of the following:</p> <ul style="list-style-type: none"> • other team members • team leader • immediate line manager • personnel or welfare officer <p>1.10 Refer requests for information and/or assistance that are outside their authority/responsibility to the appropriate people</p> <p>1.11 Work together to resolve disagreements and difficulties in team relationships</p> <p>1.12 Communicate orally with team members by two of the following methods:</p> <ul style="list-style-type: none"> • team briefings

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<ul style="list-style-type: none"> • question and answer sessions • group discussions • problem resolution processes <p>1.13 Communicate in writing or electronically to include using one of the following methods:</p> <ul style="list-style-type: none"> • adding ideas and actions to team boards • maintaining up to date key performance/production indicators • processing information • communicating via e-mail/internal network services <p>1.14 Communicate in a manner which promotes understanding, goodwill and trust</p>
<p>2 Know how to contribute to effective team working</p>	<p>2.1 Describe the statutory regulations that can affect working relationship i.e. Disability, Equal Opportunities, Discrimination, Harassment</p> <p>2.2 Explain why it is important to create and maintain good team working relationships</p> <p>2.3 Explain what are the sort of things that might affect good team working relationships</p> <p>2.4 Explain why it is important to present themselves in the workplace on time and ready for work</p> <p>2.5 Explain the methods that can be used to establish and maintain good team working relationships</p> <p>2.6 Explain the methods of handling and resolving difficulties in team working relationships</p> <p>2.7 Explain how to use data and team information to help resolve concerns and disagreements</p> <p>2.8 Explain why it is important to resolve difficulties or misunderstandings quickly and not let them develop into more serious problems</p> <p>2.9 Explain why it is important to share their knowledge and information and their performance measures with other people in their team and with other groups</p> <p>2.10 Explain how to use the data and information available to them to communicate their performances effectively to others</p> <p>2.11 Explain what types of information and data are available in their area such as key performance measures, production targets, quality, scrap ratios, problem resolution processes, action planning brainstorming and continuous improvement processes</p> <p>2.12 Explain what mixture of skills and experience is available in their team to support them or the manufacturing process when problems occur (such as a team skills matrix)</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>2.13 Explain why they need to keep other team members involved in or informed of any plans or activities they may be doing</p> <p>2.14 Explain what type of support or assistance might they need from other team members</p> <p>2.15 Explain why it is important to request help from other team members in a polite and timely manner and to offer assistance to them when help is needed</p> <p>2.16 Explain why it is important to show respect for the views, rights and property of other team members</p> <p>2.17 Explain how asking for help or assistance at inappropriate times can lead to disruption and problems within the team</p> <p>2.18 Describe the methods used in their area for effective communication (such as team briefings covering team performance, quality, cost and delivery issues, general information, personnel issues and action plans)</p> <p>2.19 Explain who to refer to with requests that are not within the limits of their responsibility</p> <p>2.20 Explain who to refer to if they have problems with team relationships that they cannot resolve</p> <p>2.21 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area</p> <p>2.22 Explain who are the appropriate people and what are their responsibilities within their working area</p>

Additional Assessment Guidance/
The use of simulation within a realistic working environment is acceptable for assessment criteria 1.10, 1.11, 1.12, 1.13, 1.14.

Unit 4: Transferring materials

Unit number: Y/601/3009
 Credit: 13
 GLH: 53
 Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Transfer materials</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant lifting and moving procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • lifting and moving equipment operating instructions • company standards and procedures <p>1.3 Choose the right equipment/techniques to move the materials</p> <p>1.4 Move materials using one or more of the following types of equipment:</p> <ul style="list-style-type: none"> • hand operated • power operated <p>1.5 Carry out lifting and carrying techniques to include two of the following:</p> <ul style="list-style-type: none"> • lifting alone • lifting with assistance from others • lifting with mechanical assistance <p>1.6 Carry out safe and correct manual lifting techniques to include three of the following:</p> <ul style="list-style-type: none"> • lifting from ground level • lifting from an angle • lifting from waist high • lifting from below ground level • lifting from overhead <p>1.7 Check that the weight of the materials does not exceed the safe lifting capacity of the equipment chosen</p> <p>1.8 Check that the materials to be moved are correct, safely loaded and secure</p> <p>1.9 Carry out checks of the materials to be moved to include all of the following:</p> <ul style="list-style-type: none"> • the materials are as specified on the documentation • the materials are stacked safely • materials are in a suitable condition for the moving operation • the load does not exceed the safe lifting capacity of the equipment • the load is secure

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<ul style="list-style-type: none"> • there are no restrictions or obstacles preventing movement of the materials <p>1.10 Move the materials to their correct location in accordance with instructions to include one of the following:</p> <ul style="list-style-type: none"> • production materials • consumable materials • finished products or components • waste or scrap <p>1.11 Identify any problems with the material transfer</p> <p>1.12 Take appropriate action to solve problems which are within their permitted authority/responsibility</p> <p>1.13 Make permitted adjustments to solve problems related to two of the following:</p> <ul style="list-style-type: none"> • equipment condition • material weight/suitability for moving • securing the load in place <p>1.14 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.15 Return any equipment they have used to its correct location on completion of the activities and leave it in a safe and reusable condition</p> <p>1.16 Maintain any material/s movement documentation accurately and legibly</p>
<p>2 Know how to transfer materials</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the material moving operations</p> <p>2.2 Explain the specific safe working practices, lifting and moving procedures and regulations that need to be observed</p> <p>2.3 Explain the hazards associated with carrying out the material moving operations</p> <p>2.4 Explain how can the specific hazards be minimised</p> <p>2.5 Explain what personal protective equipment needs to be used during the material movement activities and where can it be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, lifting and moving equipment operating procedures and how to interpret them</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>2.7 Explain what procedures and documentation are required to allow the transfer of materials to take place</p> <p>2.8 Explain what tools and equipment are used for the material movement operations undertaken and how to check that they are in a safe and usable condition</p> <p>2.9 Explain how to choose the most suitable equipment for the moving operation being performed</p> <p>2.10 Explain the lifting and handling procedures, and load bearing capacities of the equipment being used</p> <p>2.11 Explain how to apply manual lifting techniques when lifting alone and with the assistance of others</p> <p>2.12 Explain what specific moving/transfer operations are being performed</p> <p>2.13 Explain how to identify problems with the moving/transfer operation</p> <p>2.14 Explain what action they should take to solve problems that are within the limits of their responsibility</p> <p>2.15 Explain why it is important to report problems to the appropriate people when they cannot solve them and/or they are not their responsibility</p> <p>2.16 Explain why is it important to return the equipment to its correct location on completion of the activities, store it correctly, and leave it in a safe and reusable condition</p> <p>2.17 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly</p> <p>2.18 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area</p> <p>2.19 Explain who are the appropriate people and what are their responsibilities within their working area</p>

Additional Assessment Guidance
<p>Assessment criteria 1.1 and 1.2 should be observed and recorded over a period of time.</p> <p>The use of simulation within a realistic working environment is acceptable for assessment criteria 1.11, 1.12, 1.13, 1.14, 1.16.</p>

Unit 5: Preparing for manufacturing operations

Unit number: L/601/3010

Credit: 9

GLH: 42

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Prepare for manufacturing operations</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant preparation procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety and environmental regulations • safe working practices • job instructions • equipment / tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant preparation procedure specifications</p> <p>1.4 Carry out work area preparations according to procedure specification and take account of any specific safety requirements</p> <p>1.5 Prepare and maintain the work area to include all of the following:</p> <ul style="list-style-type: none"> • accessibility for receipt and removal of materials • freedom from obstructions and hazards • correct equipment and material layout <p>1.6 Prepare the equipment for the manufacturing operations and check that it is in a safe and usable condition to include one of the following:</p> <ul style="list-style-type: none"> • machinery • process plant • tools-hand held and portable • material handling arrangements • equipment specific to the operation <p>1.7 When necessary, request replacement tools and equipment within the limits of their responsibility</p> <p>1.8 Ensure that the materials are available, and they meet the specification for type, quantity and quality</p> <p>1.9 Make available and check materials for manufacturing operations to include one of the following:</p> <ul style="list-style-type: none"> • production materials • consumable materials <p>1.10 Minimise any waste during preparation activities</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.11 Deal with problems in preparation in two of the following areas:</p> <ul style="list-style-type: none"> • raw materials • documentation • tooling • equipment • work area <p>1.12 Resolve any problems with the preparation activity within the limits of their responsibility</p> <p>1.13 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include two of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • maintenance personnel • quality control <p>1.14 Maintain a safe and organised work area at all times</p>
<p>2 Know how to prepare for manufacturing operations</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the preparation activities</p> <p>2.2 Explain the specific safe working practices that need to be observed whilst carrying out the preparations</p> <p>2.3 Explain the hazards associated with carrying out the preparation activities and how they can be minimised</p> <p>2.4 Explain what personal protective equipment needs to be used during the preparation activities and where can it be obtained</p> <p>2.5 Explain how to obtain the necessary job instructions, equipment preparation procedures and how to interpret them</p> <p>2.6 Explain how the work area needs to be laid out, and where tools and materials need to be positioned</p> <p>2.7 Explain what material preparations may be required and how they will be carried out</p> <p>2.8 Explain what preparation checks need to be taken on the tools and/or equipment that they will use</p> <p>2.9 Explain what to do if their work area, equipment and/or materials are unsuitable for the planned operations</p> <p>2.10 Explain the arrangements for the receiving and removal of materials and products</p> <p>2.11 Explain what checks are needed to make sure materials meet the required specification</p> <p>2.12 Explain how to check that preparation is complete and correct</p> <p>2.13 Explain what methods can be used to minimise waste during preparation activities</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.14 Explain the potential problems with carrying out preparation activities and how they can be avoided 2.15 Explain what problems can occur in preparation activities 2.16 Explain how to identify problems within preparation activities 2.17 Explain what actions they can take within the limits of their responsibility to solve the problems 2.18 Explain who to report unsolvable problems to, or problems that are not within the limits of their responsibility 2.19 Explain what documentation may need to be completed, and why it is important to complete it accurately 2.20 Explain what their personal responsibilities are with regard to health, safety and environmental issues 2.21 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance

Assessment criteria 1.1, 1.2, 1.14 should be observed and recorded over a period of time.

The use of simulation within a realistic working environment is acceptable for assessment criteria 1.11, 1.12, 1.13.

Unit 6: Concluding manufacturing operations

Unit number: Y/601/3012

Credit: 9

GLH: 42

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Conclude manufacturing operations</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow relevant shutdown procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • company procedures • job instructions • equipment shutdown instructions <p>1.3 Obtain and follow the correct job instructions and any relevant completion/shutdown procedure instructions</p> <p>1.4 Stop the operations in accordance with job instructions and specified completion/shutdown procedures, and take account of any specific safety procedures</p> <p>1.5 Close down equipment used in the manufacturing operations to include one of the following:</p> <ul style="list-style-type: none"> • machinery • process plant • tools (hand held and portable) • material handling arrangements • equipment specific to the operation <p>1.6 Make sure any related equipment is shut down to a safe condition in accordance with completion/shutdown procedures</p> <p>1.7 Ensure equipment is clean for further use</p> <p>1.8 Remove and store materials in a correct and safe manner</p> <p>1.9 Deal appropriately with materials at completion of the manufacturing operations to include the following:</p> <ul style="list-style-type: none"> • finished products / components <p>and one other type of material from the following:</p> <ul style="list-style-type: none"> • production materials • surplus consumable materials • waste or scrap materials

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	1.10 Minimise any waste during completion/shutdown activities 1.11 Resolve any problems with the completion/shutdown activity within the limits of their responsibility 1.12 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include two of the following: <ul style="list-style-type: none"> • supervisor • team leader • maintenance personnel • quality control 1.13 Maintain a safe and organised work area at all times 1.14 Report on status of completion/shutdown of manufacturing operations 1.15 Use the correct reporting procedure on completion of manufacturing operations for one of the following: <ul style="list-style-type: none"> • output • downtime • quality • maintenance requirements • scrap • work in progress 1.16 Confirm completion/shutdown is correct and complete according to defined procedures/instructions
2 Know how to conclude manufacturing operations	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the activities 2.2 Explain the specific safe working practices that need to be observed whilst carrying out the completion/shut down activities 2.3 Explain the hazards associated with carrying out the completion/shutdown activities and how they can be minimised 2.4 Explain what personal protective equipment needs to be used during the completion/shutdown and cleaning activities and where can it be obtained 2.5 Explain what actions need to be taken in case of emergencies when shutting down machines or fully automated manufacturing operations 2.6 Explain how to obtain the necessary job instructions, equipment shutdown procedures and how to interpret them 2.7 Explain when in the manufacturing operation is it safe to shut down the equipment

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.8 Explain what completion checks need to be made 2.9 Explain the procedures for cleaning the equipment 2.10 Explain the procedures for storing and removing materials and waste 2.11 Explain what methods can be used to minimise waste during completion activities 2.12 Explain the potential problems with carrying out the completion activities and how they can be avoided 2.13 Explain what problems can occur in completion/shutdown activities 2.14 Explain how to identify problems within completion/shutdown activities 2.15 Explain what actions they can take within the limits of their responsibility to solve the problems 2.16 Explain who to report unsolvable problems to, or problems that are not within the limits of their responsibility 2.17 Explain what documentation needs to be completed and why it is important to complete it accurately and legibly 2.18 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.19 Explain who are the other appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2, 1.13 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.4, 1.6, 1.11, 1.12, 1.14, 1.15.

Unit 7: Ensuring effective handover of manufacturing operations

Unit number: H/601/3014

Credit: 9

GLH: 42

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Ensure effective handover of manufacturing operations</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow relevant handover procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety and environmental regulations • safe working practices • company procedures • job instructions • equipment handover instructions <p>1.3 Obtain and follow the correct job instructions and any relevant handover instructions</p> <p>1.4 Carry out pre-handover checks, and prepare the manufacturing operation for handover</p> <p>1.5 Prepare and handover equipment used in the manufacturing operations to include one of the following:</p> <ul style="list-style-type: none"> • machinery • process plant • tools (hand held and portable) • material handling arrangements • equipment specific to the operation <p>1.6 Maintain the work area in readiness for handover of the manufacturing operations to include all of the following:</p> <ul style="list-style-type: none"> • cleanliness of equipment and tooling • accessibility for receipt and removal of materials • freedom from obstructions and hazards • equipment and material correctly in place <p>1.7 Make sure that they take account of any specific safety requirements involved in the handover</p> <p>1.8 Perform the handover operation</p> <p>1.9 Monitor and control the handover operation, and identify any faults, variation, problems that occur</p> <p>1.10 Make any necessary adjustments within their permitted authority</p> <p>1.11 Make permitted adjustments to solve handover problems to include two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<ul style="list-style-type: none"> • manufacturing changes • productivity <p>1.12 Report any faults, variations or problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.13 Minimise any waste during the handover operation</p> <p>1.14 Confirm handover as correct and complete</p> <p>1.15 Complete any necessary documentation accurately and legibly</p>
<p>2 Know how to ensure effective handover of manufacturing operations</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the handover activities</p> <p>2.2 Explain the specific safe working practices that need to be observed whilst carrying out the handover activities</p> <p>2.3 Explain the hazards associated with carrying out the handover activities and how they can be minimised</p> <p>2.4 Explain what personal protective equipment needs to be used during the preparation activities for handover and where can it be obtained</p> <p>2.5 Explain what actions need to be taken in case of emergencies when handing over machines or fully automated manufacturing processes/operations</p> <p>2.6 Explain how to obtain the necessary job instructions, handover procedures, and how to interpret them</p> <p>2.7 Explain when in the manufacturing operation is it safe to carry out the handover procedure</p> <p>2.8 Explain what pre handover checks need to be made</p> <p>2.9 Explain what the layout of the work area should be for the handover operation</p> <p>2.10 Explain the procedures for cleaning the equipment, and storing and removing materials and waste</p> <p>2.11 Explain how to carry out the handover operation safely and correctly</p> <p>2.12 Explain what faults, problems or variations can occur in the handover operation</p> <p>2.13 Explain how to identify faults, problems or variations in the handover operation</p> <p>2.14 Explain what adjustments they are allowed to make during the handover operation</p> <p>2.15 Explain why it is important to report faults, variations or problems that are outside their permitted authority or they cannot solve</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.16 Explain what documentation may need to be completed on handover, and why it is important to complete it accurately and legibly 2.17 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.18 Explain who are the other appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1 and 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.10, 1.11, 1.12, 1.13, 1.15

Unit 8: Receiving and checking incoming materials

Unit number: T/601/3017

Credit: 9

GLH: 42

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Receive and check incoming materials</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow relevant procedures and safety requirements for the receipt of the materials to include all of the following:</p> <ul style="list-style-type: none"> • health and safety and environmental regulations • safe working practices • company procedures • job instructions <p>1.3 Obtain and follow the correct job instructions and any relevant material specifications</p> <p>1.4 Carry out work area preparations for the receipt of the incoming materials according to specified procedures</p> <p>1.5 Prepare and maintain the work area to include all of the following:</p> <ul style="list-style-type: none"> • accessibility for receipt and removal of materials • freedom from obstructions and hazards • correct material layout <p>1.6 Make sure that they take account of any additional safety requirements specific to incoming materials</p> <p>1.7 Carry out receipt of the incoming materials according to specified operating procedures</p> <p>1.8 Receive materials for manufacturing operations to include one of the following:</p> <ul style="list-style-type: none"> • production materials • consumable materials • hazardous materials <p>1.9 Confirm that the materials meet the specification for type, quantity and quality</p> <p>1.10 Resolve any problems that are within the limits of their responsibility in two of the following areas:</p> <ul style="list-style-type: none"> • material quantity • material quality • delivery time of material • work area • location of material <p>1.11 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<ul style="list-style-type: none"> • supervisor/manager • team leader • quality control <p>1.12 Maintain a safe and organised work area at all times</p> <p>1.13 Confirm materials are correct and complete</p> <p>1.14 Complete documentation accurately and legibly</p>
<p>2 Know how to receive and check incoming materials</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the receipt of the materials</p> <p>2.2 Explain the specific safe working practices that need to be observed whilst carrying out the receipt of materials</p> <p>2.3 Explain the hazards associated with carrying out the receipt of the materials and how they can be minimised</p> <p>2.4 Explain what personal protective equipment needs to be used and where can it be obtained</p> <p>2.5 Explain how to obtain the necessary job instructions, material specifications and preparation procedures and how to interpret them</p> <p>2.6 Explain how the work area needs to be laid out, in readiness for the receipt of the materials</p> <p>2.7 Explain what the arrangements are for receiving the materials</p> <p>2.8 Explain what checks are needed to make sure materials meet the required specification</p> <p>2.9 Explain what methods can be used to minimise waste during receipt of materials</p> <p>2.10 Explain the potential problems with carrying out the receipt of materials and how they can be avoided</p> <p>2.11 Explain what problems can occur in receiving materials</p> <p>2.12 Explain how to identify problems with receiving materials</p> <p>2.13 Explain what to do if the materials are not to the required specification or are damaged or unsuitable for the planned production operations</p> <p>2.14 Explain what actions they can take within the limits of their responsibility to solve problems</p> <p>2.15 Explain who to report unsolvable problems to, or problems that are not within the limits of their responsibility</p> <p>2.16 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area</p> <p>2.17 Explain who are the appropriate people and what are their responsibilities within their working area</p>
Additional Assessment Guidance	
Assessment criteria 1.1, 1.2, 1.12 should be observed and recorded over a period of time.	

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
The use of simulation within a realistic working environment is acceptable for assessment criteria 1.10, 1.11, 1.14.	

Unit 9: Controlling manufacturing operations

Unit number: M/601/3095
 Credit: 19
 GLH: 42
 Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Control manufacturing operations</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety and environmental regulations • safe working practices • job instructions • equipment/tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant production and quality specifications</p> <p>1.4 Collect data in relation to one of the following production methods:</p> <ul style="list-style-type: none"> • hand manufacturing operations • manually operated machine operations • fully automated machine operations • combined manufacturing operations <p>1.5 Collect data which reflects the condition of the manufacturing process to include three of the following:</p> <ul style="list-style-type: none"> • quality of finished product • dimensional accuracy • raw material use • consumable material use • machinery condition • equipment or tool condition • output/production targets <p>1.6 Collect up to date, comprehensive and accurate operational data in line with production requirements</p> <p>1.7 Record the data in the required format accurately and legibly</p> <p>1.8 Use the data collected to make decisions about the condition of the manufacturing process</p> <p>1.9 Deal with problems within the manufacturing process by both of the following methods:</p> <ul style="list-style-type: none"> • by taking action themselves • by reporting the problem to someone else <p>1.10 Make any allowable adjustments to the operating parameters to ensure the production output meets the specification requirements</p> <p>1.11 Make adjustments in relation to three of the following:</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<ul style="list-style-type: none"> • process effectiveness relating to operational sequence • process effectiveness relating to production time • process characteristics relating to quality • process characteristics relating to accuracy • material utilisation relating to production • materials utilisation relating to consumables • manufacturing programme changes • operational safety <p>1.12 Seek authorisation from the appropriate person for any adjustments to operating parameters which are outside the limits of their responsibility</p> <p>1.13 Check that production continues to comply with specification following any adjustments made</p>
<p>2 Know how to control manufacturing operations</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the manufacturing activities</p> <p>2.2 Explain the specific safe working practices, data collection and adjustment procedures and environmental regulations that need to be observed</p> <p>2.3 Explain the hazards associated with carrying out the data collection and equipment adjustment procedures and how they can be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies</p> <p>2.5 Explain what personal protective equipment needs to be used during the activities and where it can be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, equipment operating and adjustment procedures and quality control specifications that are used, and how to interpret and understand them</p> <p>2.7 Describe the type of production data which will provide information about the various aspects of the manufacturing operation</p> <p>2.8 Explain how to collect the required data and how it is to be used and recorded</p> <p>2.9 Explain how to check and interpret data relating to manufacturing operations</p> <p>2.10 Explain why it is important to maintain the security of the information collected</p> <p>2.11 Describe the potential problems with the data collected such as trends, variance or discrepancy, how these occur and how to correct them</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>2.12 Explain how to deal with problems which affect aspects of data collection, data interpretation and adjustments to manufacturing operations</p> <p>2.13 Describe the adjustments that can be made to manufacturing operations, equipment and tools, materials and manufacturing programme and the procedures involved</p> <p>2.14 Describe the various process operating parameters on the equipment used and how adjustments to these will affect the manufacturing output</p> <p>2.15 Explain why it is important to follow the specified adjustment sequence and procedure at all times</p> <p>2.16 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly</p> <p>2.17 Explain how to report any problems they are not able to deal with themselves and why it is important to report faults, variations or problems immediately</p> <p>2.18 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area</p> <p>2.19 Explain who are the appropriate people and what are their responsibilities within their working area</p>

Additional Assessment Guidance

Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time.

The use of simulation within a realistic working environment is acceptable for assessment criteria 1.11, 1.12, 1.13, 1.14.

Unit 10: Contributing to effectiveness in the workplace

Unit number: A/601/3097

Credit: 8

GLH: 35

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Contribute to improving effectiveness in the workplace</p>	<p>1.1 Work safely at all times, complying with health and safety and other relevant regulations and guidelines</p> <p>1.2 Work in a way which is effective in relation to their own work and the work of colleagues within the organisation</p> <p>1.3 Work effectively with colleagues to include three of the following:</p> <ul style="list-style-type: none"> • colleagues in same work group • colleagues in other work groups • immediate supervision/line management • personnel in other departments • external contacts • those for whom they have responsibility <p>1.4 Make sure that any actions that they take are within the limits of their own responsibility and authority</p> <p>1.5 Contribute to reviewing their personal training and development as is appropriate to the job role</p> <p>1.6 Review personal development objectives and targets to include one of the following:</p> <ul style="list-style-type: none"> • dual or multi skilling • training on new equipment/technology • increased responsibility • understanding of company working practices, procedures, plans and policies • other specific requirements <p>1.7 Deal promptly and effectively with problems within their responsibility</p> <p>1.8 Deal with problems affecting the manufacturing process to include three of the following:</p> <ul style="list-style-type: none"> • materials • tools and equipment • machinery or plant • drawings/specifications • job instructions • production quality • production output/timescales • people • safety • activities or procedures

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.9 Report problems that they cannot resolve and or are not their responsibility</p> <p>1.10 Identify any opportunities for improvements to working practices and procedures</p> <p>1.11 Contribute to organisational procedures for identifying opportunities for improvement to one of the following:</p> <ul style="list-style-type: none"> • working practices • working methods • quality • safety • tools and equipment • suppliers • internal communication • customer service • training and development • teamwork • other <p>1.12 Share any suggestions for improving working practices and procedures with others using the appropriate method</p> <p>1.13 Present ideas for potential improvements using two of the following methods:</p> <ul style="list-style-type: none"> • orally • written • electronic • visually aided
<p>2 Know how to contribute to improving effectiveness in the workplace</p>	<p>2.1 Describe the relevant health and safety requirements and guidelines associated with their role within the workplace</p> <p>2.2 Explain how to obtain and correctly use any equipment used to protect the health and safety of themselves and their colleagues</p> <p>2.3 Explain what factors within the workplace affect effectiveness and why it is importance to work effectively</p> <p>2.4 Explain the potential difficulties and delays which may affect their work and who else may also be affected by them</p> <p>2.5 Explain how to communicate information, difficulties and ideas to colleagues in the appropriate way</p> <p>2.6 Explain why it is important to contribute to their own personal development</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.7 Explain the benefits of continuous personal development 2.8 Explain what training opportunities are available in the workplace 2.9 Explain why it is important to review training and development objectives 2.10 Explain who to discuss training and development issues with 2.11 Explain the procedures for dealing with and reporting problems that affect the manufacturing process 2.12 Explain the types of problems that occur in the manufacturing process undertaken and how they can be avoided 2.13 Explain what techniques can be used to help solve problems 2.14 Explain who to refer to if they have problems that they cannot resolve 2.15 Explain why it is important to suggest ways in which they think improvements to working practices may be made 2.16 Explain how to identify and define improvement opportunities 2.17 Explain the procedure for making suggestions for improvements 2.18 Explain how do the suggestions need to be made (such as verbally, in writing, formally or informally) 2.19 Explain the benefits to themselves and the organisation if improvements can be identified 2.20 Explain how to use the data and information available to them to communicate their ideas effectively to others 2.21 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.22 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.7, 1.8, 1.9, 1.10, 1.11, 1.12.

Unit 11: Analysing the results of inspection and confirming quality of production

Unit number: J/601/3099

Credit: 14

GLH: 35

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Analyse the results of inspection and confirm quality of production</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant inspection, testing procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety and environmental regulations • safe working practices • quality control job instructions • machinery/equipment safety procedures • company standards and procedures <p>1.3 Report on samples obtained from one of the following manufacturing methods:</p> <ul style="list-style-type: none"> • hand manufacturing operations • manually operated machine operations • computer controlled operations • fully automated machine operations • combined manufacturing operations <p>1.4 Make sure they have all the required data to hand before starting to analyse them</p> <p>1.5 Confirm quality requirements related to both of the following sampling procedures:</p> <ul style="list-style-type: none"> • random • defined (e.g. first/final) <p>1.6 Accurately interpret the data/results gained from two of the following inspection and testing procedures:</p> <ul style="list-style-type: none"> • visual inspection • measurement • analysis testing • functional operation <p>1.7 Accurately distinguish between products and materials which meet the quality requirements and those which do not</p> <p>1.8 Take appropriate action with products and materials according to the results of the inspection and testing procedure</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	1.9 Take appropriate action following the outcome of the evaluation activities related to both of the following: <ul style="list-style-type: none"> • acceptable samples - within required quality • unacceptable samples - outside required quality 1.10 Report any problems that they cannot solve, or are outside their permitted authority, to the appropriate person to include one of the following: <ul style="list-style-type: none"> • team leader • production supervisor • quality control supervisor
2 Know how to analyse the results of inspection and confirm quality of production	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the inspection and analysis activities 2.2 Explain the specific safe working practices and environmental regulations that need to be observed 2.3 Explain the hazards associated with the analysis and testing procedures and how they can be minimised 2.4 Explain what personal protective equipment needs to be used during the activities and where can it be obtained 2.5 Explain how to obtain the necessary job instructions, analysis and evaluation documentation and quality control specifications that are used, and how to interpret them 2.6 Explain the correct methods of handling and storing the samples 2.7 Explain how to confirm samples, products and materials meet the quality requirements 2.8 Explain how to identify which samples, products and materials do not meet the quality requirements 2.9 Explain how to interpret the results of the inspection and testing procedure 2.10 Explain what action needs to be taken with samples, products and materials that do not meet the quality requirements 2.11 Explain the potential problems associated with stages of the inspection and testing process, how they occur and how they can be corrected 2.12 Explain how to report any problems they are not able to deal with themselves and why it is important to report faults, variations or problems immediately 2.13 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.14 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance

Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time.

The use of simulation within a realistic working environment is acceptable for assessment criteria 1.7 (in relation to products or materials which do not meet quality specifications), 1.9, 1.10.

Unit 12: Recording and reporting inspection and test results

Unit number: K/601/3113

Credit: 8

GLH: 39

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Record and report inspection and test results</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Obtain and use the correct quality control documentation for the manufacturing method and product</p> <p>1.3 Use the correct documentation for one of the following:</p> <ul style="list-style-type: none"> • hand manufacturing operations • manually operated machine operations • computer controlled operations • fully automated machine operations • combined manufacturing operations <p>1.4 Record details in relation to two of the following as appropriate to the process:</p> <ul style="list-style-type: none"> • visual inspection • measurement • analysis testing • functional operation <p>1.5 Record the results of the inspection activities in the appropriate format to include two of the following:</p> <ul style="list-style-type: none"> • check box/tick list • written • electronic <p>1.6 Complete records related to both of the following sampling procedures:</p> <ul style="list-style-type: none"> • random • defined (e.g. first/final) <p>1.7 Record inspection and test results accurately and legibly</p> <p>1.8 Record all required details of the inspection and test activities and results</p> <p>1.9 Pass completed records on to the correct person/location</p> <p>1.10 Provide required reports on time and through the correct channels of communication to include two of the following:</p> <ul style="list-style-type: none"> • oral • written • electronic

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	1.11 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following: <ul style="list-style-type: none"> • team leader • production supervisor • quality control supervisor
2 Know how to record and report inspection and test results	2.1 Describe the relevant health and safety requirements of the work area in which they are recording the results of inspection/testing activities 2.2 Explain what specific safe working practices, sampling collection, testing procedures and environmental regulations need to be observed 2.3 Explain how to obtain the necessary quality control documentation that is used 2.4 Explain how to complete quality control documentation 2.5 Explain why it is important to complete documentation accurately and legibly 2.6 Describe when quality control documentation should be completed 2.7 Explain what information needs to be recorded in relation to the manufacturing method and sample type 2.8 Explain what use is made of quality control documentation by the organisation 2.9 Explain where/to whom they should pass on completed records 2.10 Describe the potential problems associated with completing records and passing on reports, how they can be avoided and what can be done if they arise 2.11 Explain how to report any problems they are not able to deal with themselves and why it is important to report problems immediately 2.12 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.13 Explain who are the appropriate people to whom records should be passed and problems reported to

Additional Assessment Guidance

Assessment criteria 1.1 should be observed and recorded over a period of time.

The use of simulation within a realistic working environment is acceptable for assessment criteria 1.11.

Unit 13: Producing shaped products

Unit number: R/601/3025
 Credit: 18
 GLH: 60
 Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Produce shaped products</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant shaping procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • shaping equipment / tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant shaping procedure and quality specifications</p> <p>1.4 Use the correct shaping tools, equipment, materials and work holding methods for the shaping operations being performed</p> <p>1.5 Perform shaping operations using one of the following methods:</p> <ul style="list-style-type: none"> • hand shaping operations • manually operated machine shaping operations • fully automated machine shaping operations • combined shaping operations <p>1.6 Perform the shaping operation according to instructions and safe operating procedures</p> <p>1.7 Monitor and control the shaping operation and identify any faults, variations or problems that occur</p> <p>1.8 Make permitted adjustments to solve production faults, variations or problems related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity <p>1.9 Make any necessary adjustments within their permitted authority</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.10 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.11 Minimise any waste during the shaping operation</p> <p>1.12 Produce shaped products which comply with the shaping specification and quality requirements</p> <p>1.13 Carry out checks of the shaped products to include the following:</p> <ul style="list-style-type: none"> • completeness of shaping operations • and two other checks from the following: • dimensional accuracy of shaped product • quality of finish • freedom from damage or false tool cuts <p>1.14 Work to achieve their production targets for both of the following:</p> <ul style="list-style-type: none"> • output • quality <p>1.15 Deal appropriately with finished components and complete any necessary documentation accurately and legibly</p>
<p>2 Know how to produce shaped products</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the shaping operations</p> <p>2.2 Explain the specific safe working practices, shaping procedures and environmental regulations that need to be observed</p> <p>2.3 Explain the hazards associated with carrying out the shaping operations and how they can be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies</p> <p>2.5 Explain what personal protective equipment needs to be used during the shaping activities and where can it be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, operating procedures and shaping specifications that are used, and how to interpret them</p> <p>2.7 Explain what tools and equipment are used for the shaping operations undertaken and how to check that they are in a safe and usable condition</p> <p>2.8 Explain how to hold the materials securely without causing damage or distortion</p> <p>2.9 Explain how to operate monitor and control the shaping equipment to achieve the required specification</p> <p>2.10 Explain the specific shaping operations to be performed</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.11 Explain why it is important to follow the specified shaping sequence and procedure at all times 2.12 Explain what methods can be used to minimise waste during shaping operations 2.13 Explain what faults, problems or variations can occur in the shaping operation 2.14 Explain how to identify faults, problems or variations in the shaping operation 2.15 Explain what allowable adjustments they can make to achieve specification in the shaping operation 2.16 Explain why it is important to report faults, variations or problems that are outside their permitted authority and or they cannot solve immediately 2.17 Explain how to check the quality of the shaped components, against the required quality standards and what tools and equipment are used 2.18 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.19 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.20 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.7, 1.8, 1.9, 1.10, 1.15.

Unit 14: Producing products by assembly operations

Unit number: A/601/3035

Credit: 18

GLH: 60

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Produce products by assembly operations</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant assembly procedures and safety requirements according to all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • assembly instructions • assembly equipment / tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant assembly procedure and quality specifications</p> <p>1.4 Check that they have all the necessary components and that they are undamaged and in a usable condition</p> <p>1.5 Position and align the components correctly</p> <p>1.6 Secure the components in position using the specified fastening device/method</p> <p>1.7 Use appropriate tools, equipment and materials during the assembly operations</p> <p>1.8 Carry out assembly operations using one of the following methods:</p> <ul style="list-style-type: none"> • hand assembly operations • manually operated machine assembly operations • fully automated assembly operations • combined assembly operations <p>1.9 Monitor and control the assembly operation and identify any faults/variations/problems that occur</p> <p>1.10 Make permitted adjustments to solve production faults, variations or problems related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • productivity • manufacturing changes

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.11 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • quality control • team leader <p>1.12 Produce assembled product/s which comply with the specification and quality requirements</p> <p>1.13 Carry out checks of the assembly to include the following:</p> <ul style="list-style-type: none"> • completeness of the assembly • and three other checks from the following: • positional accuracy of components • correct orientation of components • component alignment • component security • freedom from damage or foreign objects • volume/quantity <p>1.14 Work to achieve their production targets for both of the following:</p> <ul style="list-style-type: none"> • output • quality <p>1.15 Deal appropriately with finished assemblies and complete any necessary documentation accurately and legibly</p>
<p>2 Know how to produce products by assembly operations</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the assembly operations</p> <p>2.2 Explain what are the specific safe working practices, assembly procedures and environmental regulations that need to be observed</p> <p>2.3 Explain what are the hazards associated with carrying out the assembly operations and how can they be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies</p> <p>2.5 Explain what personal protective equipment needs to be used during the assembly activities and where can it be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, operating procedures and assembly specifications that are used, and how to interpret them</p> <p>2.7 Explain what tools and equipment are used for the assembly operation and how to check that they are in a safe and usable condition</p> <p>2.8 Explain what are the specific assembly operations to be performed</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.9 Explain why it is important to follow the specified assembly sequence and procedure at all times 2.10 Explain what methods are used to align and position the components prior to fixing them into position 2.11 Explain what methods are used to fix the components securely in position 2.12 Explain what methods can be used to minimise waste during the assembly operation 2.13 Explain how to monitor the quality of the assembly and identify any variations from the specification 2.14 Explain how to check the quality of the assembly, against the required quality standards and what tools and equipment are used 2.15 Explain what fault, problems or variations can occur in the assembly operation 2.16 Explain how to identify the faults, problems or variations in the assembly operation 2.17 Explain what allowable adjustments they can make to achieve the required outcome 2.18 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.19 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.20 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.9, 1.10, 1.11, 1.15.

Unit 15: Producing joined products

Unit number: R/601/3039

Credit: 17

GLH: 60

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Produce joined products</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant joining procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • joining equipment / tool operating instructions • company standards and procedures <p>1.3 Prepare the surface to be joined, making sure that it is free of any defects which may affect the joining operation</p> <p>1.4 Use the correct joining tools, equipment and techniques to correctly position and align the components to be joined</p> <p>1.5 Perform joining operations using one of the following methods:</p> <ul style="list-style-type: none"> • hand joining operations • manually operated machine joining operations • fully automated machine joining operations • combined joining operations <p>1.6 Perform the joining operation according to instructions and safe operating procedures</p> <p>1.7 Monitor and control the joining operation and identify any faults, variations or problems that occur</p> <p>1.8 Make permitted adjustments to solve production faults, variations or problems related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.9 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.10 Minimise any waste during the joining operation</p> <p>1.11 Produce joined products which comply with the joining specification and quality requirements</p> <p>1.12 Carry out checks of the joined products to include all of the following:</p> <ul style="list-style-type: none"> • completeness of joining operations • positional accuracy of product • joint quality and appearance • security of joint • freedom from excessive joining medium <p>1.13 Work to achieve their production targets for both of the following:</p> <ul style="list-style-type: none"> • output • quality <p>1.14 Deal appropriately with finished components and complete any necessary documentation accurately and legibly</p>
<p>2 Know how to produce joined products</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the joining operations</p> <p>2.2 Explain what are the specific safe working practices, joining procedures and environmental regulations that need to be observed</p> <p>2.3 Explain what are the hazards associated with carrying out the joining operations and how can they be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies</p> <p>2.5 Explain what personal protective equipment needs to be used during the joining activities and where can it be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, operating procedures and joining specifications that are used, and how to interpret them</p> <p>2.7 Explain what tools and equipment are used for the joining operations undertaken and how to check that they are in a safe and usable condition</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.8 Explain what are the methods of surface preparation that are used in the joining operation and why they are necessary 2.9 Explain how to correctly position and align the components to be joined 2.10 Explain what are the specific joining operations to be performed 2.11 Explain how to perform the joining process to achieve the required specification 2.12 Explain why it is important to follow the specified joining sequence and procedure at all times 2.13 Explain what methods can be used to minimise waste during joining operations 2.14 Explain what faults, problems or variations can occur in the joining operation 2.15 Explain how to identify faults, problems or variations in the joining operation 2.16 Explain what allowable adjustments they can make to achieve specification in the joining operation 2.17 Explain why it is important to report faults, variations or problems that are outside their permitted authority and or they cannot solve immediately 2.18 Explain how to monitor and check the quality of the joined components, against the required quality standards and what tools and equipment are used 2.19 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.20 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.21 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.7, 1.8, 1.9, 1.14.

Unit 16: Producing products by processing

Unit number: F/601/3067

Credit: 17

GLH: 60

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Produce products by processing</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant processing procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • processing equipment/tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant processing procedure and quality specifications</p> <p>1.4 Follow the pre-defined sequence of events at all times</p> <p>1.5 Use the correct tools, equipment and materials to further the process</p> <p>1.6 Perform processing operations using one of the following methods:</p> <ul style="list-style-type: none"> • hand processing operations • manually operated machine processing operations • fully automated machine processing operations • combined processing operations <p>1.7 Perform the processing operation according to instructions and safe operating procedures</p> <p>1.8 Monitor and control the processing operation and identify any faults, variations or problems that occur</p> <p>1.9 Make permitted adjustments to solve production faults, variations or problems related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity <p>1.10 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	1.11 Minimise any waste during the processing operation 1.12 Produce processed products which comply with the processing specification and quality requirements 1.13 Carry out checks of the processed products to include the following: <ul style="list-style-type: none"> • completeness of processing operations • and two other checks from the following: • appearance of product • freedom from contamination • quantity • volume 1.14 Work to achieve their production targets for both of the following: <ul style="list-style-type: none"> • output • quality 1.15 Complete any necessary documentation accurately and legibly
2 Know how to produce products by processing	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the processing operations 2.2 Explain the specific safe working practices, processing procedures and environmental regulations that need to be observed 2.3 Explain the hazards associated with carrying out the processing operations and how they can be minimised 2.4 Explain what actions need to be taken in case of emergencies 2.5 Explain what personal protective equipment needs to be used during the processing activities and where can it be obtained 2.6 Explain how to obtain the necessary job instructions, operating procedures and processing specifications that are used, and how to interpret them 2.7 Explain what tools and equipment are used for the processing operations undertaken and how to check that they are in a safe and usable condition 2.8 Explain why it is important to follow the pre-determined sequence of events in the processing operation 2.9 Explain the consequences of not following the pre-determined sequence of events in the processing operation 2.10 Explain the specific processing operations to be performed

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.11 Explain how to perform the processing operation to achieve the required specification 2.12 Explain what methods can be used to minimise waste during processing operations 2.13 Explain what faults, problems or variations can occur in the processing operation 2.14 Explain how to identify faults, problems or variations in the processing operation 2.15 Explain what allowable adjustments they can make to achieve specification in the processing operation 2.16 Explain why it is important to report faults, variations or problems that are outside their permitted authority or that they cannot solve immediately 2.17 Explain how to monitor and check the quality of the processed products, against the required quality standards 2.18 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.19 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.20 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2, 1.4 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.8, 1.9, 1.10, 1.15.

Unit 17: Producing formed products

Unit number: T/601/3079
 Credit: 18
 GLH: 60
 Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Produce formed products</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant forming procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • forming equipment/tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant forming procedure and quality specifications</p> <p>1.4 Use the correct forming tools, equipment, materials and work holding methods for the forming operations being performed</p> <p>1.5 Perform forming operations using one of the following methods:</p> <ul style="list-style-type: none"> • hand forming operations • manually operated machine forming operations • fully automated machine forming operations • combined forming operations <p>1.6 Perform the forming operation according to instructions and safe operating procedures</p> <p>1.7 Monitor and control the forming operation and identify any faults, variations or problems that occur</p> <p>1.8 Make permitted adjustments to solve production faults, variations or problems related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity <p>1.9 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.10 Minimise any waste during the forming operation</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.11 Produce formed products which comply with the forming specification and quality requirements</p> <p>1.12 Carry out checks of the formed products to include all of the following:</p> <ul style="list-style-type: none"> • completeness of forming operations • shape/profile of formed product • quality of finish and appearance • freedom from deformity or ripples • freedom from damage or tool marks <p>1.13 Work to achieve their production targets for both of the following:</p> <ul style="list-style-type: none"> • output • quality <p>1.14 Deal appropriately with finished components and complete any necessary documentation accurately and legibly</p>
<p>2 Know how to produce formed products</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the forming operations</p> <p>2.2 Explain the specific safe working practices, forming procedures and environmental regulations that need to be observed</p> <p>2.3 Explain the hazards associated with carrying out the forming operations and how they can be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies</p> <p>2.5 Explain what personal protective equipment needs to be used during the forming activities and where can it be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, operating procedures and forming specifications that are used, and how to interpret them</p> <p>2.7 Explain what tools and equipment are used for the forming operations undertaken and how to check that they are in a safe and usable condition</p> <p>2.8 Explain how to hold the materials securely without causing damage or distortion</p> <p>2.9 Explain how to operate, monitor and control the forming equipment to achieve the required specification</p> <p>2.10 Explain the specific forming operations to be performed</p> <p>2.11 Explain why it is important to follow the specified forming sequence and procedure at all times</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.12 Explain what methods can be used to minimise waste during forming operations 2.13 Explain what faults, problems or variations can occur in the forming operation 2.14 Explain how to identify faults, problems or variations in the forming operation 2.15 Explain what allowable adjustments they can make to achieve specification in the forming operation 2.16 Explain why it is important to report faults, variations or problems that are outside their permitted authority or that they cannot solve immediately 2.17 Explain how to check the quality of the formed components, against the required quality standards and what tools and equipment are used 2.18 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.19 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.20 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.7, 1.8, 1.9, 1.14.

Unit 18: Finishing products

Unit number: M/601/3081
 Credit: 17
 GLH: 60
 Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Finish products</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant finishing procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • finishing equipment/tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant finishing procedure and quality specifications</p> <p>1.4 Use the correct finishing tools, equipment, materials for the finishing operations being performed</p> <p>1.5 Perform finishing operations using one of the following methods:</p> <ul style="list-style-type: none"> • hand finishing operations • manually operated machine finishing operations • fully automated machine finishing operations • combined finishing operations <p>1.6 Perform the finishing operation according to instructions and safe operating procedures</p> <p>1.7 Follow the correct sequence of events in the finishing operation</p> <p>1.8 Monitor and control the finishing operation and identify any faults, variations or problems that occur</p> <p>1.9 Make permitted adjustments to solve production faults, variations or problems related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.10 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.11 Minimise any waste during the finishing operation</p> <p>1.12 Produce finished products which comply with the finishing specification and quality requirements</p> <p>1.13 Carry out checks of the finished products to include all of the following:</p> <ul style="list-style-type: none"> • completeness of finishing operations • quality of finish and appearance • freedom from damage • freedom from deformity • freedom from contamination <p>1.14 Work to achieve their production targets for both of the following:</p> <ul style="list-style-type: none"> • output • quality <p>1.15 Deal appropriately with finished components and complete any necessary documentation accurately and legibly</p>
<p>2 Know how to finish products</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the finishing operations</p> <p>2.2 Explain the specific safe working practices, finishing procedures and environmental regulations that need to be observed</p> <p>2.3 Explain the hazards associated with carrying out the finishing operations and how they can be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies</p> <p>2.5 Explain what personal protective equipment needs to be used during the finishing activities and where can it be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, operating procedures and finishing specifications that are used, and how to interpret them</p> <p>2.7 Explain what tools and equipment are used for the finishing operations undertaken and how to check that they are in a safe and usable condition</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.8 Explain how to operate, monitor and control the finishing equipment to achieve the required specification 2.9 Explain the specific finishing operations to be performed 2.10 Explain why it is important to follow the specified finishing sequence and procedure at all times 2.11 Explain what methods can be used to minimise waste during finishing operations 2.12 Explain what faults, problems or variations can occur in the finishing operation 2.13 Explain how to identify faults, problems or variations in the finishing operation 2.14 Explain what allowable adjustments they can make to achieve specification in the finishing operation 2.15 Explain why it is important to report faults, variations or problems that are outside their permitted authority and or they cannot solve 2.16 Explain how to check the quality of the finished components, against the required quality standards and what tools and equipment are used 2.17 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.18 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.19 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.8, 1.9, 1.10, 1.15.

Unit 19: Producing moulded products

Unit number: J/601/3085

Credit: 18

GLH: 60

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Produce moulded products</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant moulding procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • moulding equipment/tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant moulding procedure and quality specifications</p> <p>1.4 Use the correct moulding tools, equipment, materials and work holding methods for the moulding operations being performed</p> <p>1.5 Apply release agents to patterns/moulds when required</p> <p>1.6 Perform moulding operations using one of the following methods:</p> <ul style="list-style-type: none"> • hand moulding operations • manually operated machine moulding operations • fully automated machine moulding operations • combined moulding operations <p>1.7 Perform the moulding operation according to instructions and safe operating procedures</p> <p>1.8 Monitor and control the moulding operation and identify any faults, variations or problems that occur</p> <p>1.9 Make permitted adjustments to solve production faults, variations or problems related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity <p>1.10 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.11 Minimise any waste during the moulding operation</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.12 Produce moulded products which comply with the specification and quality requirements</p> <p>1.13 Carry out checks of the moulded products to include all of the following:</p> <ul style="list-style-type: none"> • completeness of moulding operations • shape/profile of moulded product • quality of finish and appearance • freedom from damage or deformity • freedom from contamination <p>1.14 Work to achieve their production targets for both of the following:</p> <ul style="list-style-type: none"> • output • quality <p>1.15 Deal appropriately with moulded components and complete any necessary documentation accurately and legibly</p>
<p>2 Know how to produce moulded products</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the moulding operations</p> <p>2.2 Explain the specific safe working practices, moulding procedures and environmental regulations that need to be observed</p> <p>2.3 Explain the hazards associated with carrying out the moulding operations and how they can be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies</p> <p>2.5 Explain what personal protective equipment needs to be used during the moulding activities and where can it be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, operating procedures and moulding specifications that are used, and how to interpret them</p> <p>2.7 Explain what tools and equipment are used for the moulding operations undertaken and how to check that they are in a safe and usable condition</p> <p>2.8 Explain how to apply release agents when required</p> <p>2.9 Explain how to operate, monitor and control the moulding equipment to achieve the required specification</p> <p>2.10 Explain the specific moulding operations to be performed</p> <p>2.11 Explain why it is important to follow the specified moulding sequence and procedure at all times</p> <p>2.12 Explain what methods can be used to minimise waste during moulding operations</p> <p>2.13 Explain what faults, problems or variations can occur in the moulding operation</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.14 Explain how to identify faults, problems or variations in the moulding operation 2.15 Explain what allowable adjustments they can make to achieve specification in the moulding operation 2.16 Explain why it is important to report faults, variations or problems that are outside their permitted authority or that they cannot solve immediately 2.17 Explain how to check the quality of the moulded components, against the required quality standards and what tools and equipment are used 2.18 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.19 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.20 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance

Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time.

The use of simulation within a realistic working environment is acceptable for assessment criteria 1.8, 1.9, 1.10, 1.15.

Unit 20: Producing packaged products

Unit number: D/601/3089

Credit: 15

GLH: 60

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Produce packaged products</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant packaging procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • packaging equipment/tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant packaging procedure and quality specifications</p> <p>1.4 Use the correct packaging tools, equipment, materials for the packaging operations being performed</p> <p>1.5 Perform packaging operations using one of the following methods:</p> <ul style="list-style-type: none"> • hand packaging operations • manually operated machine packaging operations • fully automated machine packaging operations • combined packaging operations <p>1.6 Perform the packaging operation according to instructions and safe operating procedures</p> <p>1.7 Follow the correct sequence of events in the finishing operation</p> <p>1.8 Monitor and control the packaging operation and identify any faults, variations or problems that occur</p> <p>1.9 Make permitted adjustments to solve production faults, variations or problems to related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity <p>1.10 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	1.11 Minimise any waste during the packaging operation 1.12 Produce finished products which comply with the packaging specification and quality requirements 1.13 Carry out checks of the packaged products to include the following: <ul style="list-style-type: none"> • completeness of packaging operations • and three other checks from the following: <ul style="list-style-type: none"> • quality of finish and appearance • freedom from damage • freedom from contamination • security of packaging • quantity • volume 1.14 Work to achieve their production targets for both of the following: <ul style="list-style-type: none"> • output • quality 1.15 Deal appropriately with packaged components and complete any necessary documentation accurately and legibly
2 Know how to produce packaged products	2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the packaging operations 2.2 Explain the specific safe working practices, packaging procedures and environmental regulations that need to be observed 2.3 Explain the hazards associated with carrying out the packaging operations and how they can be minimised 2.4 Explain what actions need to be taken in case of emergencies 2.5 Explain what personal protective equipment needs to be used during the packaging activities and where can it be obtained 2.6 Explain how to obtain the necessary job instructions, operating procedures and packaging specifications that are used, and how to interpret them 2.7 Explain what tools and equipment are used for the packaging operations undertaken and how to check that they are in a safe and usable condition 2.8 Explain how to operate, monitor and control the packaging equipment to achieve the required specification 2.9 Explain the specific packaging operations to be performed 2.10 Explain why it is important to follow the specified packaging sequence and procedure at all times

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.11 Explain what methods can be use to minimise waste during packaging operations 2.12 Explain what faults, problems or variations can occur in the packaging operation 2.13 Explain how to identify faults, problems or variations in the packaging operation 2.14 Explain what allowable adjustments they can make to achieve the specification in the packaging operation 2.15 Explain why it is important to report faults, variations or problems that are outside their permitted authority or that they cannot solve 2.16 Explain how to check the quality of the packaged products, against the required quality standards and what tools and equipment are used 2.17 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.18 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.19 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.8, 1.9, 1.10, 1.15.

Unit 21: Making products using computer-controlled equipment

Unit number: R/601/3090

Credit: 18

GLH: 67

Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Make products using computer controlled equipment</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant manufacturing procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • computer controlled equipment/tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant manufacturing procedure and quality specifications</p> <p>1.4 Ensure the manufacturing program is at the correct start point before running the equipment</p> <p>1.5 Follow the correct procedures for starting, running and stopping the computer program</p> <p>1.6 Respond in an appropriate manner to any error/display screen messages received</p> <p>1.7 Monitor and control the computer controlled manufacturing operation and identify any faults, variations or problems that occur</p> <p>1.8 Make permitted adjustments related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity <p>1.9 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.10 Minimise any waste during the computer controlled manufacturing operation</p> <p>1.11 Produce manufactured products which comply with the specification and quality requirements</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.12 Carry out checks of the manufactured products to include the following:</p> <ul style="list-style-type: none"> • completeness of manufacturing operation <p>and three other checks from the following:</p> <ul style="list-style-type: none"> • dimensional accuracy • quality of finish • freedom from damage • quantity • volume • freedom from contamination <p>1.13 Work to achieve their production targets for both of the following:</p> <ul style="list-style-type: none"> • output • quality <p>1.14 Deal appropriately with finished components and complete any necessary documentation accurately and legibly</p>
<p>2 Know how to make products using computer controlled equipment</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the computer controlled manufacturing operations</p> <p>2.2 Explain what are the specific safe working practices, equipment procedures and environmental regulations that need to be observed</p> <p>2.3 Explain what are the hazards associated with carrying out the computer controlled operations and how can they be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies when using computer controlled equipment</p> <p>2.5 Explain what personal protective equipment may be used during the operation and where can it be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, operating procedures and manufacturing specifications that are used, and how to interpret them</p> <p>2.7 Explain how to start up and check the computer equipment is at the correct start point in the operating program</p> <p>2.8 Explain what to do if error messages are displayed</p> <p>2.9 Explain how to restart the equipment after it has been closed down in an emergency situation</p> <p>2.10 Explain what methods can be use to minimise waste during computer controlled manufacturing operations</p> <p>2.11 Explain what faults, problems or variations can occur in the computer controlled manufacturing operation</p> <p>2.12 Explain how to identify faults, problems or variations in the computer controlled manufacturing operation</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.13 Explain what allowable adjustments can they make to achieve specification in the computer controlled manufacturing operation 2.14 Explain why it is important to report faults, variations or problems that are outside their permitted authority or that they cannot solve immediately 2.15 Explain how to check the quality of the manufactured products, against the required quality standards 2.16 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.17 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.18 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.7, 1.8, 1.9, 1.14.

Unit 22: Manufacturing products using combined manufacturing operations

Unit number: H/601/3093
 Credit: 18
 GLH: 67
 Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Manufacture products using combined manufacturing operations</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant manufacturing procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety regulations • safe working practices • job instructions • equipment/tool operating instructions • company standards and procedures <p>1.3 Obtain and follow the correct job instructions and any relevant manufacturing procedure and quality specifications tools</p> <p>1.4 Use the correct equipment for the manufacturing operations being performed</p> <p>1.5 Perform the combined operations according to instructions and safe operating procedures</p> <p>1.6 Monitor and control the combined operations and identify any faults, variations or problems that occur</p> <p>1.7 Make permitted adjustments to solve production faults, variations or problems related to two of the following:</p> <ul style="list-style-type: none"> • quality • accuracy • material utilisation • operational safety • manufacturing changes • productivity <p>1.8 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • supervisor • team leader • quality control <p>1.9 Minimise any waste during the combined operation</p> <p>1.10 Produce manufactured products which comply with the specification and quality requirements</p> <p>1.11 Carry out checks of the manufactured products to include the following:</p> <ul style="list-style-type: none"> • completeness of manufacturing operation • and three other checks from the following: • dimensional accuracy

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<ul style="list-style-type: none"> • quality of finish • freedom from damage • quantity • volume • freedom from contamination <p>1.12 Work to achieve their production targets for both of the following:</p> <ul style="list-style-type: none"> • Output • quality <p>1.13 Deal appropriately with finished components and complete any necessary documentation accurately and legibly</p>
<p>2 Know how to manufacture products using combined manufacturing operations</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the combined operation</p> <p>2.2 Explain what are the specific safe working practices, equipment procedures and environmental regulations that need to be observed</p> <p>2.3 Explain what are the hazards associated with carrying out the combined operations and how can they be minimised</p> <p>2.4 Explain what actions need to be taken in case of emergencies when using combined operations</p> <p>2.5 Explain what personal protective equipment may be used during the combined operations and where it can be obtained</p> <p>2.6 Explain how to obtain the necessary job instructions, operating procedures and manufacturing specifications that are used, and how to interpret them</p> <p>2.7 Explain what equipment is used for the combined operations and how do they check that it is in a safe and usable condition</p> <p>2.8 Explain how to operate, monitor and control the combined operation to achieve the required specification</p> <p>2.9 Explain what are the specific manufacturing operations to be performed</p> <p>2.10 Explain what methods can be used to minimise waste during combined operations</p> <p>2.11 Explain what faults, problems or variations can occur in the combined operations</p> <p>2.12 Explain how to identify faults, problems or variations in the combined operation</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
3	2.1 Explain what allowable adjustments can they make to achieve specification in the combined operation 2.2 Explain why it is important to report faults, variations or problems that are outside their permitted authority or that they cannot solve immediately 2.3 Explain how to check the quality of the manufactured products, against the required quality standards 2.4 Explain what documentation may need to be completed, and why it is important to complete it accurately and legibly 2.5 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.6 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance

Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time.

The use of simulation within a realistic working environment is acceptable for assessment criteria 1.6 (for identification of faults, variations or problems if none occur during observed work practice), 1.7, 1.8, 1.13.

Unit 23: Carrying out inspection and testing activities

Unit number: H/601/3112
 Credit: 16
 GLH: 53
 Level: 2

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
<p>1 Carry out inspection and testing activities</p>	<p>1.1 Work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines</p> <p>1.2 Follow the relevant sampling procedures and safety requirements to include all of the following:</p> <ul style="list-style-type: none"> • health and safety and environmental regulations • safe working practices • quality control job instructions • machinery/equipment safety procedures • company standards and procedures <p>1.3 Collect production samples in relation to one of the following manufacturing methods:</p> <ul style="list-style-type: none"> • hand manufacturing operations • manually operated machine operations • computer controlled operations • fully automated machine operations • combined manufacturing operations <p>1.4 Obtain and follow the correct job instructions and any relevant quality control specifications</p> <p>1.5 Carry out the inspection and testing activities using the specified methods and equipment</p> <p>1.6 Carry out sampling activities to include both of the following sampling procedures:</p> <ul style="list-style-type: none"> • random • defined (e.g. first/final) <p>1.7 Work in line with all of the following aspects of the inspection specification:</p> <ul style="list-style-type: none"> • use the correct method of sampling • obtain the required number of samples • obtain the correct size of samples • use the correct source of sample • take samples at the correct time/frequency <p>1.8 Take samples of the production output at the required frequency and in line with the inspection specification and operating procedures</p> <p>1.9 Handle and store the samples safely and correctly in keeping with the quality control procedures</p> <p>1.10 Transfer any samples which need to be inspected and tested in other departments promptly and in the correct way</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	<p>1.11 Prepare samples for inspection and testing in line with the defined procedures</p> <p>1.12 Carry out checks of the samples to include two of the following as is appropriate to the process:</p> <ul style="list-style-type: none"> • visual inspection • measurement • analysis testing • functional operation <p>1.13 Report any problems that they cannot solve or are outside their permitted authority to the appropriate person to include one of the following:</p> <ul style="list-style-type: none"> • team leader • production supervisor • quality control supervisor
<p>2 Know how to carry out inspection and testing activities</p>	<p>2.1 Describe the relevant health and safety requirements of the work area in which they are carrying out the sampling and inspection/testing activities</p> <p>2.2 Explain what specific safe working practices, sampling collection, testing procedures and environmental regulations need to be observed</p> <p>2.3 Explain the hazards associated with carrying out the sample collection and inspection and testing procedures and how they can be minimised</p> <p>2.4 Explain what personal protective equipment needs to be used during the sampling and inspection/testing activities and where can it be obtained</p> <p>2.5 Explain how to obtain the necessary job instructions, sampling equipment, inspection and testing procedures and quality control specifications that are used, and how to interpret them</p> <p>2.6 Explain how to carry out the sampling activities in line with the production and quality control procedures (including first off, random, defined and final sampling procedures)</p> <p>2.7 Explain why it is important to follow the specified sampling sequence and inspection and testing procedure at all times</p> <p>2.8 Describe what specific sampling and inspection and testing equipment is to be used, and the precautions to be taken when handling and using it</p> <p>2.9 Explain what factors may make the equipment, or the samples obtained unsuitable for the testing or inspection activities</p> <p>2.10 Describe the correct methods of preparing, handling and storing the samples</p>

Learning Outcomes	Assessment Criteria
<i>The learner will</i>	<i>The learner can</i>
	2.11 Explain how to carry out an inspection or testing of sample materials and products in line with operating and quality control procedures 2.12 Describe the potential problems associated with stages of the inspection and testing process, how they occur and how they can be corrected 2.13 Explain how to deal with problems which affect aspects of sample collection, inspection and testing activities and the interpretation of the results 2.14 Explain how to report any problems they are not able to deal with themselves and why it is important to report faults, variations or problems immediately 2.15 Explain what their responsibilities are with regard to the reporting lines and procedures in their working area 2.16 Explain who are the appropriate people and what are their responsibilities within their working area

Additional Assessment Guidance
Assessment criteria 1.1, 1.2 should be observed and recorded over a period of time. The use of simulation within a realistic working environment is acceptable for assessment criteria 1.10, 1.13.

Appendix 3: Sample Assessment Materials

Unit Achievement Summary Sheet

Highfield Level 2 NVQ Diploma in Performing Manufacturing Operations (RQF)

Qualification Structure

To achieve the Highfield Level 2 NVQ Diploma in Performing Manufacturing Operations (RQF) learners must achieve a minimum of **48 credits** overall. To complete this, learners must achieve the following rules of combination:

- one unit in the mandatory group totaling 5 credits
- a minimum of 5 credits from Optional Group A
- a minimum of 25 credits from Optional Group B from a minimum of 3 units
- a minimum of 13 credits from Optional Group C

Mandatory Group

Tick box	Unit reference	Unit title	Level	GLH	Credit	Date of completion
	A/601/5013	Complying with statutory regulations and organisational safety requirements	2	35	5	

Optional Group A: (One unit to be chosen)

Tick box	Unit reference	Unit title	Level	GLH	Credit	Date of completion
	R/601/3008	Promoting effective working relationships	2	30	5	
	T/601/3101	Contributing to effective team working	2	30	6	

Optional Group B: (A minimum of 25 credits to be chosen from a minimum of 3 units)

Tick box	Unit reference	Unit title	Level	GLH	Credit	Date of completion
	Y/601/3009	Transferring materials*	2	53	13	
	L/601/3010	Preparing for manufacturing operations	2	42	9	
	Y/601/3012	Concluding manufacturing operations*	2	42	9	