Pearson BTEC Level 1 Certificate/Extended Certificate/Diploma in Exploring the Construction and Engineering Sectors

Specification

First teaching September 2014

Issue 2

Edexcel, BTEC and LCCI qualifications

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This specification is Issue 2. Key changes are listed in the summary table on the next page. We will inform centres of any changes to this issue. The latest issue can be found on the Pearson website: qualifications.pearson.com

These qualifications were previously known as:

Pearson BTEC Level 1 Certificate in Exploring the Construction and Engineering Sectors (QCF)

Pearson BTEC Level 1 Extended Certificate in Exploring the Construction and Engineering Sectors (QCF)

Pearson BTEC Level 1 Diploma in Exploring the Construction and Engineering Sectors (QCF)

The QNs remain the same.

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All information in this specification is correct at time of publication.

ISBN 9781446956984

Summary of Pearson BTEC Level 1 Certificate/Extended Certificate/Diploma in Exploring the Construction and Engineering Sectors specification Issue 2 changes

Summary of changes made between previous Issue 1 and this current Issue 2	Section number
All references to QCF have been removed throughout the specification	Throughout
Definition of TQT added	Section 1
Definition of sizes of qualifications aligned to TQT	Section 1
TQT value added	Section 2
Reference to credit transfer within the QCF removed	Section 8
QCF references removed from unit titles and unit levels in all units	Section 9
Guided learning definition updated	Section 9

Earlier issue(s) show(s) previous changes.

If you need further information on these changes or what they mean, contact us via our website at: qualifications.pearson.com/en/support/contact-us.html.

Contents

Purpose of this specification

The purpose of a specification as defined by Ofqual is to set out:

- the qualification's objective
- any other qualification that a learner must have completed before taking the qualification
- any prior knowledge, skills or understanding that the learner is required to have before taking the qualification
- units that a learner must have completed before the qualification will be awarded and any optional routes
- any other requirements that a learner must have satisfied before they will be assessed or before the qualification will be awarded
- the knowledge, skills and understanding that will be assessed as part of the qualification (giving a clear indication of their coverage and depth)
- the method of any assessment and any associated requirements relating to it
- the criteria against which the learner's level of attainment will be measured (such as assessment criteria)
- any specimen materials
- any specified levels of attainment.

1 Introducing BTEC Level 1 qualifications in Exploring Vocational Sectors

For more than 25 years, BTECs have earned their reputation as well-established, enduringly effective qualifications. They have a proven track record of improving motivation and achievement. BTECs also provide progression routes to the next stage of education or to employment.

BTEC qualifications are vocational qualifications from Entry to Level 3 and are available in a range of sectors. They give learners the knowledge, understanding and skills they need to prepare for progress to higher-level qualifications or to employment. They also provide career development opportunities for those already in work. These qualifications may be full-time or part-time courses in schools or colleges. Training centres and employers may also offer these qualifications.

Sizes of BTEC qualifications

For all regulated qualifications, Pearson specify a total number of hours that it is estimated learners will require to complete and show achievement for the qualification – this is the Total Qualification Time (TQT). The TQT value indicates the size of a qualification.

Within the TQT, Pearson identifies the number of Guided Learning Hours (GLH) that we estimate a centre delivering the qualification might provide. Guided learning means activities, such as lessons, tutorials, online instruction, supervised study and giving feedback on performance, that directly involve tutors and assessors in teaching, supervising and invigilating learners. Guided learning includes the time required for learners to complete external assessment under examination or supervised conditions.

In addition to guided learning, other required learning directed by tutors or assessors will include private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

As well as TQT and GLH, qualifications can also have a credit value – equal to one tenth of TQT, rounded to the nearest whole number.

TQT and credit values are assigned after consultation with users of the qualifications.

BTEC qualifications are generally available in the following sizes:

- Award – a qualification with a TQT value of 120 or less (equivalent to a range of 1–12 credits)
- Certificate – a qualification with a TQT value in the range of 121–369 (equivalent to a range of 13–36 credits)
- Diploma – a qualification with a TQT value of 370 or more (equivalent to 37 credits and above).

What are BTEC Level 1 qualifications in Exploring Vocational Sectors?

These qualifications are aimed primarily at learners aged 14-16, particularly those who need the opportunity to explore vocational progression opportunities. We anticipate that these qualifications will also be of interest to learners aged 16+ and so they have been designed to meet the recommendations of the Department for Education's *Study Programmes for 16–19 year olds.*

The qualifications aim to:

- provide a clear and transparent progression route to Level 2 qualification options
- help learners to make the step to Level 2 qualifications by recognising learner need and providing personal development to aid progression
- introduce learners to a range of employment opportunities within a related vocational cluster
- engage learners in learning by providing stimulating experiences reflecting their personal interests and aspirations
- recognise the need to give learners enhanced opportunities to try out career choices, enabling them to make well-informed choices on vocational options at an early age
- provide broad and substantial experience of vocational learning
- provide a balance of flexibility to meet individual need but enough structure to ensure quality of provision and delivery to learners.

Learners achieving these qualifications will benefit by gaining:

- a heightened awareness of employment opportunities
- an improved understanding of entry requirements and progression paths
- increased engagement and achievement through flexible use of the qualifications to create an alternative curriculum, for example:
  - learners could take the qualification at the beginning of a study programme, followed by progression to a more specific vocational programme
  - the qualifications could be taken by learners whose main focus is on developing their personal and social development skills and Functional Skills
- clear progression routes to Level 2 vocational qualifications in manageable steps, through clear links to the content of Level 2 units.

It is intended that a suite of BTEC Level 1 qualifications in Exploring Vocational Sectors will be developed, broadly covering different vocational areas.

Stakeholder support

While developing these qualifications we consulted schools and colleges through in-depth research and focus groups. Our respondents were particularly keen that the qualifications in the BTEC Level 1 Exploring Vocational Sectors suite should enable learners to study them alongside core GCSEs and to progress to Level 2. We have responded to stakeholder requests in the design of the qualifications by ensuring that:

- Level 2 units are included to stretch and challenge learners and to help to bridge the gap between Level 1 and Level 2 qualifications
- the themed sector pathway of the qualifications provides a stimulating structure with connected units but does not limit and constrain
- employability skills, such as enterprise, research and project skills and working with others, are covered in optional units, to enable learners to progress
- Functional Skills mapping is included in *Annexe A* to help teachers and tutors in the classroom
- the qualifications are of sizes suitable for inclusion in study programmes.

2 Qualification summary and key information

Qualification title	Pearson BTEC Level 1 Certificate in Exploring the Construction and Engineering Sectors
Qualification Number (QN)	601/3567/0
Accreditation start date	01/09/2014
Approved age ranges	14-16 18+ 19+
Credit value	14
Assessment	Centre-devised assessment (internal assessment)
Total Qualification Time (TQT)	140
Guided learning hours	140
Grading information	The qualification and units are at pass grade.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow our access and recruitment policy (see *Section 8 Access and recruitment*).

Qualification title	Pearson BTEC Level 1 Extended Certificate in Exploring the Construction and Engineering Sectors
Qualification Number (QN)	601/3569/4
Accreditation start date	01/09/2014
Approved age ranges	14-16 18+ 19+
Credit value	27
Assessment	Centre-devised assessment (internal assessment)
Total Qualification Time (TQT)	270
Guided learning hours	270
Grading information	The qualification and units are at pass grade.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow our access and recruitment policy (see *Section 8 Access and recruitment*).

Qualification title	Pearson BTEC Level 1 Diploma in Exploring the Construction and Engineering Sectors
Qualification Number (QN)	601/3595/5
Accreditation start date	01/09/2014
Approved age ranges	14-16 18+ 19+
Credit value	37
Assessment	Centre-devised assessment (internal assessment)
Total Qualification Time (TQT)	370
Guided learning hours	370
Grading information	The qualification and units are at pass grade.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow our access and recruitment policy (see *Section 8 Access and recruitment*).

Qualification Number and qualification title

Centres will need to use the Qualification Number (QN) when they seek public funding for their learners. Every unit in a qualification has a unit reference number (URN).

Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub. The Skills Funding Agency also publishes a funding catalogue that lists the qualifications available for 19+ funding.

The qualification title, unit titles and QN are given on each learner's final certificate. You should tell your learners this when your centre recruits them and registers them with us. There is more information about certification in our *UK Information Manual,* available on our website at qualifications.pearson.com

3 Pearson BTEC Level 1 Certificate, Extended Certificate and Diploma in Exploring the Construction and Engineering Sectors

Objectives of the qualifications

Aims

The specific aims of the Pearson BTEC Level 1 Certificate, Extended Certificate and Diploma in Exploring the Construction and Engineering Sectors are to:

- provide a flexible and challenging programme of study related to the construction and engineering sectors that is suited to learners who have the general interest and aptitude to progress to further study
- provide a broad and balanced programme of study through the mandatory unit that develops knowledge and understanding relevant to the construction and engineering sectors as a whole
- enable learners to develop their personal and employability skills through the provision of a broad range of optional units
- provide opportunities for the development of transferable skills related to study and vocational application that provide a platform for success
- support informed progression to Level 2 qualifications in construction and engineering
- give learners the potential opportunity to progress to employment, in due course, in a range of job roles in construction and engineering.

Mandatory unit

The mandatory unit in this qualification ensures that all learners will develop:

- a knowledge of the scope of the construction and engineering sectors
- a knowledge of the range of job roles within the sub-sectors of construction and engineering
- an understanding of the skills required to work in each sub-sector.

Optional units

The optional units offer offers flexibility to personalise the programme to meet a wide range of learner needs. These units can be selected to:

- give learners the opportunity to gain knowledge and understanding in more specialist areas of interest
- develop personal learning skills, for example by developing the skills and qualities needed when working in a team or developing entrepreneurial and enterprise skills.

Assessment approach

The Pearson BTEC Level 1 Certificate, Extended Certificate and Diploma in Exploring the Construction and Engineering Sectors are internally assessed and externally quality assured.

Progression opportunities

The Pearson BTEC Level 1 Certificate, Extended Certificate and Diploma in Exploring the Construction and Engineering Sectors support progression to Level 2 qualifications by allowing learners to study personal and employability skills units at Level 2.

The Pearson BTEC Level 1 Certificate, Extended Certificate and Diploma in Exploring the Construction and Engineering Sectors provide the knowledge, skills and understanding for Level 1 learners to progress to:

- other Level 1 vocational qualifications for the construction and engineering sectors, for example the Pearson BTEC Level 1 Award in Construction, or the Pearson BTEC Level 1 Award for Engineering
- Level 2 vocational qualifications, such as the Pearson BTEC Level 1/Level 2 First Award, Certificate, Extended Certificate or Diploma in Construction and the Built Environment, or the Pearson BTEC Level 1/Level 2 First Award, Certificate, Extended Certificate or Diploma in Engineering
- related Level 2 qualifications, such as the Pearson Edexcel Level 2 NVQ Diploma in Construction Operations and the Pearson GCSE in Engineering.

Developing English and mathematical skills

Throughout the Pearson BTEC Level 1 Certificate, Extended Certificate and Diploma in Exploring the Construction and Engineering Sectors, learners will have the opportunity to develop and practise their English and mathematical skills.

Learners can develop, for example:

- speaking and listening skills through units such as *Unit 1: Introduction to the Construction and Engineering Sectors*, and *Unit 17: Running an Enterprise Activity* where learners engage in group discussions
- reading skills through a unit such as *Unit 21: Career Progression* where learners explore career paths through research involving a variety of printed and online media
- writing skills through a unit such as: *Unit 24: Carrying out an Individual Project,* where learners will work independently to plan and carry out a research project
- mathematical skills through units such as *Unit 16: Planning an Enterprise Activity*, *Unit 17: Running an Enterprise Activity* and *Unit 24: Carrying out an Individual Project*, where products or services need to be costed and sold.

This specification includes mapping to English and Mathematics Functional Skills, see *Annexe A*.

Developing employability skills

Throughout the Pearson BTEC Level 1 Certificate, Extended Certificate and Diploma in Exploring the Construction and Engineering Sectors, learners will develop a range of personal and employability skills through working with peers and in carrying out work-related activities. Learners can develop, for example:

- project/self-management and independent learning skills through units such as *Unit 22: Self-management Skills* and *Unit 24: Carrying out an Individual Project*
- teamwork and interpersonal skills through units such as *Unit 23: Working in a Team* and *Unit 30: Learning with Colleagues and Other Learners*
- enterprise and entrepreneurial skills, through *Unit 16: Planning an Enterprise Activity* and *Unit 17: Running an Enterprise Activity*.

4 Qualification structures

Pearson BTEC Level 1 Certificate in Exploring the Construction and Engineering Sectors

The learner will need to meet the requirements outlined in the table below before Pearson can award the qualification.

Minimum number of credits that must be achieved	14
Number of mandatory credits from Group 1 that must be achieved	4
Number of optional credits from Group 2 that must be achieved	8
Number of optional credits from Group 3 that must be achieved	0
Remaining credits to taken from Groups 2 or 3	2

Unit	Unit reference number	Group 1: Mandatory unit	Level	Credit	Guided learning hours
1	R/506/2408	Introduction to the Construction and Engineering Sectors	1	4	40
Unit	**Unit reference number**	**Group 2: Optional units**	**Level**	**Credit**	**Guided learning hours**
2	J/502/3685	Developing Bricklaying Skills	1	4	40
3	R/502/3687	Developing Carpentry Skills	1	4	40
4	H/502/3693	Developing Joinery Skills	1	4	40
5	Y/502/3688	Developing Construction Decorating Skills	1	4	40
6	K/502/3694	Developing Plumbing Skills	1	4	40
7	Y/502/3691	Developing Electrical Installation Skills	1	4	40
8	T/502/7473	Developing Plastering Skills	1	4	40
9	D/600/9138	Developing Skills in Making Engineering Components Using Hand Tools	1	4	40

continued

Unit	Unit reference number	Group 2: Optional units	Level	Credit	Guided learning hours
10	H/600/9139	Developing Skills in Using a Bench/Pedestal Drilling Machine	1	4	40
11	H/600/9142	Developing Skills in Assembling Mechanical Components	1	3	30
12	H/601/0095	Developing Skills in Electronic Assembly	1	3	30
13	L/601/0124	Developing Skills in Wiring Electrical Circuits and Components	1	3	30
14	R/601/0125	Developing Skills in Routine Servicing of Mechanical Equipment	1	3	30
Unit	**Unit reference number**	**Group 3: Optional units**	**Level**	**Credit**	**Guided learning hours**
16	R/503/2857	Planning an Enterprise Activity*	1	1	10
17	Y/503/2858	Running an Enterprise Activity*	1	1	10
18	D/503/2859	Producing a Product*	1	1	10
19	D/600/9317	Managing Money Matters	1	1	10
20	F/503/2840	Learning with Colleagues and Other Learners*	1	2	20
21	F/503/2837	Career Progression*	1	2	20
22	T/503/2835	Self-management Skills*	1	2	20
23	R/503/2843	Working in a Team*	1	3	30
24	K/504/9146	Carrying out an Individual Project	1	3	30
25	J/503/2869	Career Progression*	2	2	20

continued

Unit	Unit reference number	Group 3: Optional units	Level	Credit	Guided learning hours
26	Y/503/2875	Working in a Team*	2	3	30
27	L/503/2890	Producing a Product*	2	1	10
28	R/503/2888	Planning an Enterprise Activity*	2	1	10
29	Y/503/2889	Running an Enterprise Activity*	2	1	10
30	J/503/2872	Learning with Colleagues and Other Learners*	2	2	20
31	A/503/2867	Self-management Skills*	2	2	20

* Forbidden combinations

Learners may take either Unit 16 or Unit 28, they may not take both.

Learners may take either Unit 17 or Unit 29, they may not take both.

Learners may take either Unit 18 or Unit 27, they may not take both.

Learners may take either Unit 20 or Unit 30, they may not take both.

Learners may take either Unit 21 or Unit 25, they may not take both.

Learners may take either Unit 22 or Unit 31, they may not take both.

Learners may take either Unit 23 or Unit 26, they may not take both.

Pearson BTEC Level 1 Extended Certificate in Exploring the Construction and Engineering Sectors

The learner will need to meet the requirements outlined in the table below before Pearson can award the qualification.

Minimum number of credits that must be achieved	27
Number of mandatory credits from Group 1 that must be achieved	4
Number of optional credits from Group 2 that must be achieved	16
Number of optional credits from Group 3 that must be achieved	3
Remaining credits to taken from Groups 2 or 3	4

Unit	Unit reference number	Group 1: Mandatory unit	Level	Credit	Guided learning hours
1	R/506/2408	Introduction to the Construction and Engineering Sectors	1	4	40
Unit	**Unit reference number**	**Group 2: Optional units**	**Level**	**Credit**	**Guided learning hours**
2	J/502/3685	Developing Bricklaying Skills	1	4	40
3	R/502/3687	Developing Carpentry Skills	1	4	40
4	H/502/3693	Developing Joinery Skills	1	4	40
5	Y/502/3688	Developing Construction Decorating Skills	1	4	40
6	K/502/3694	Developing Plumbing Skills	1	4	40
7	Y/502/3691	Developing Electrical Installation Skills	1	4	40
8	T/502/7473	Developing Plastering Skills	1	4	40
9	D/600/9138	Developing Skills in Making Engineering Components Using Hand Tools	1	4	40
10	H/600/9139	Developing Skills in Using a Bench/Pedestal Drilling Machine	1	4	40

continued

Unit	Unit reference number	Group 2: Optional units	Level	Credit	Guided learning hours
11	H/600/9142	Developing Skills in Assembling Mechanical Components	1	3	30
12	H/601/0095	Developing Skills in Electronic Assembly	1	3	30
13	L/601/0124	Developing Skills in Wiring Electrical Circuits and Components	1	3	30
14	R/601/0125	Developing Skills in Routine Servicing of Mechanical Equipment	1	3	30
15	Y/600/9140	Developing Skills in Planning and Making a Machined Product	1	6	60
Unit	**Unit reference number**	**Group 3: Optional units**	**Level**	**Credit**	**Guided learning hours**
16	R/503/2857	Planning an Enterprise Activity*	1	1	10
17	Y/503/2858	Running an Enterprise Activity*	1	1	10
18	D/503/2859	Producing a Product*	1	1	10
19	D/600/9317	Managing Money Matters	1	1	10
20	F/503/2840	Learning with Colleagues and Other Learners*	1	2	20
21	F/503/2837	Career Progression*	1	2	20
22	T/503/2835	Self-management Skills*	1	2	20
23	R/503/2843	Working in a Team*	1	3	30
24	K/504/9146	Carrying out an Individual Project	1	3	30
25	J/503/2869	Career Progression*	2	2	20
26	Y/503/2875	Working in a Team*	2	3	30

continued

Unit	Unit reference number	Group 3: Optional units	Level	Credit	Guided learning hours
27	L/503/2890	Producing a Product*	2	1	10
28	R/503/2888	Planning an Enterprise Activity*	2	1	10
29	Y/503/2889	Running an Enterprise Activity*	2	1	10
30	J/503/2872	Learning with Colleagues and Other Learners*	2	2	20
31	A/503/2867	Self-management Skills*	2	2	20

* Forbidden combinations

Learners may take either Unit 16 or Unit 28, they may not take both.

Learners may take either Unit 17 or Unit 29, they may not take both.

Learners may take either Unit 18 or Unit 27, they may not take both.

Learners may take either Unit 20 or Unit 30, they may not take both.

Learners may take either Unit 21 or Unit 25, they may not take both.

Learners may take either Unit 22 or Unit 31, they may not take both.

Learners may take either Unit 23 or Unit 26, they may not take both.

Pearson BTEC Level 1 Diploma in Exploring the Construction and Engineering Sectors

The learner will need to meet the requirements outlined in the table below before Pearson can award the qualification.

Minimum number of credits that must be achieved	37
Number of mandatory credits from Group 1 that must be achieved	4
Number of optional credits from Group 2 that must be achieved	24
Number of optional credits from Group 3 that must be achieved	3
Remaining credits to taken from Groups 2 or 3	6

Unit	Unit reference number	Group 1: Mandatory unit	Level	Credit	Guided learning hours
1	R/506/2408	Introduction to the Construction and Engineering Sectors	1	4	40
Unit	**Unit reference number**	**Group 2: Optional units**	**Level**	**Credit**	**Guided learning hours**
2	J/502/3685	Developing Bricklaying Skills	1	4	40
3	R/502/3687	Developing Carpentry Skills	1	4	40
4	H/502/3693	Developing Joinery Skills	1	4	40
5	Y/502/3688	Developing Construction Decorating Skills	1	4	40
6	K/502/3694	Developing Plumbing Skills	1	4	40
7	Y/502/3691	Developing Electrical Installation Skills	1	4	40
8	T/502/7473	Developing Plastering Skills	1	4	40
9	D/600/9138	Developing Skills in Making Engineering Components Using Hand Tools	1	4	40
10	H/600/9139	Developing Skills in Using a Bench/Pedestal Drilling Machine	1	4	40

continued

Unit	Unit reference number	Group 2: Optional units	Level	Credit	Guided learning hours
11	H/600/9142	Developing Skills in Assembling Mechanical Components	1	3	30
12	H/601/0095	Developing Skills in Electronic Assembly	1	3	30
13	L/601/0124	Developing Skills in Wiring Electrical Circuits and Components	1	3	30
14	R/601/0125	Developing Skills in Routine Servicing of Mechanical Equipment	1	3	30
15	Y/600/9140	Developing Skills in Planning and Making a Machined Product	1	6	60
Unit	**Unit reference number**	**Group 3: Optional units**	**Level**	**Credit**	**Guided learning hours**
16	R/503/2857	Planning an Enterprise Activity*	1	1	10
17	Y/503/2858	Running an Enterprise Activity*	1	1	10
18	D/503/2859	Producing a Product*	1	1	10
19	D/600/9317	Managing Money Matters	1	1	10
20	F/503/2840	Learning with Colleagues and Other Learners*	1	2	20
21	F/503/2837	Career Progression*	1	2	20
22	T/503/2835	Self-management Skills*	1	2	20
23	R/503/2843	Working in a Team*	1	3	30
24	K/504/9146	Carrying out an Individual Project	1	3	30
25	J/503/2869	Career Progression*	2	2	20
26	Y/503/2875	Working in a Team*	2	3	30

continued

Unit	Unit reference number	Group 3: Optional units	Level	Credit	Guided learning hours
27	L/503/2890	Producing a Product*	2	1	10
28	R/503/2888	Planning an Enterprise Activity*	2	1	10
29	Y/503/2889	Running an Enterprise Activity*	2	1	10
30	J/503/2872	Learning with Colleagues and Other Learners*	2	2	20
31	A/503/2867	Self-management Skills*	2	2	20

* Forbidden combinations

Learners may take either Unit 16 or Unit 28, they may not take both.

Learners may take either Unit 17 or Unit 29, they may not take both.

Learners may take either Unit 18 or Unit 27, they may not take both.

Learners may take either Unit 20 or Unit 30, they may not take both.

Learners may take either Unit 21 or Unit 25, they may not take both.

Learners may take either Unit 22 or Unit 31, they may not take both.

Learners may take either Unit 23 or Unit 26, they may not take both.

5 Programme delivery

Centres are free to offer the qualifications using any mode of delivery (for example full time, part time, evening only, distance learning) that meets their learners' needs. Whichever mode of delivery is used, centres must make sure that learners have access to the resources identified in the specification and to the subject specialists delivering the units.

Those planning the programme should aim to enhance the vocational nature of the qualification by:

- liaising with employers to make sure a course is relevant to learners' specific needs
- accessing and using non-confidential data and documents from learners' workplaces
- developing up-to-date and relevant teaching materials that make use of scenarios that are relevant to the sectors
- giving learners the opportunity to apply their learning in practical activities
- including sponsoring employers in the delivery of the programme and, where appropriate, in the assessment.

Centres must make sure that any legislation referred to in the units is current.

Health and Safety of Learners

Training and proper supervision of young people is particularly important because of their youth and unfamiliarity with the working environment.

A competent supervisor must carry out an induction for all the learners on the safe use of the learner environment and equipment. The centre's health and safety risk assessments should be implemented. Tutors should supervise learners working with electrical equipment at all times.

Learners and centres must comply with the Use of Work Equipment Regulations 1998, Approved Code of practice and guidance (L22) as they apply to young people in the workplace.

Centre resource requirements

As part of the approval process, centres must make sure that the resource requirements below are in place before offering the qualification.

General resource requirements

- Centres must have appropriate physical resources (for example, equipment, IT, learning materials, teaching rooms) to support the delivery and assessment of the qualifications.
- Staff involved in the assessment process must have relevant expertise and occupational experience.

- There must be systems in place to make sure continuing professional development for staff delivering the qualifications.
- Centres must have appropriate health and safety policies in place relating to the use of equipment by learners.
- Centres must deliver the qualifications in accordance with current equality legislation.

Specific resource requirements

As well as the general resource requirements, centres must provide the following specific resources:

Unit 1: Introduction to the Construction and Engineering Sectors	Learners will require access to trade journals, newspapers and websites where industry vacancies are advertised. It would be useful if learners could visit construction sites and engineering workshops. Visiting speakers from industry would also be useful, particularly those who have taken a vocational route in their career.
Unit 2: Developing Bricklaying Skills	Learners will require access to hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work, with adequate space for spot boards and the safe construction of brickwork models, adequate washing facilities for the removal of mortar from exposed skin, access to first-aid facilities and storage of PPE.
Unit 3: Developing Carpentry Skills	Learners will require access to carpentry workbenches, hand tools, materials, fixings and equipment of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work. Adequate workshop space must be provided for the safe storage and use of timber, as well as adequate washing facilities, access to first-aid facilities and storage for PPE.

Unit 4: Developing Joinery Skills	Learners will require access to joinery workbenches, joinery hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work. Adequate workshop space must be provided for the safe storage and use of timber, as well as adequate washing facilities, access to first-aid facilities and storage for PPE.
Unit 5: Developing Construction Decorating Skills	Learners will require access to a wall of at least 3 m^2 to decorate, and to hand tools, materials and equipment of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work. Adequate workshop space must be provided for the safe storage and use of decorating materials, as well as adequate washing facilities, access to first-aid facilities and storage for PPE.
Unit 6: Developing Plumbing Skills	Learners will require access to workbenches, hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work to carry out the mechanical plumbing tasks, with appropriate work areas and storage for tools, equipment and PPE. Learners will also require access to a technical library with current textbooks on construction and the built environment and building services. Internet access will give learners an opportunity to develop skills in e-learning but the tutor will need to manage this carefully.

Unit 7: Developing Electrical Installation Skills	Learners will require access to workbenches, hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work to carry out electrical tasks, with appropriate work areas and storage for tools, equipment and PPE. Learners require access to a technical library with current textbooks on construction and the built environment. Internet access will give learners an opportunity to develop skills in e-learning but this will need careful management by the tutor.
Unit 8: Developing Plastering Skills	Learners will require access to hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work, with adequate space for spot boards and the safe application of 2-coat plastering models, adequate washing facilities for the removal of plaster from exposed skin, access to first-aid facilities and storage of PPE.
Unit 9: Developing Skills in Making Engineering Components Using Hand Tools	It would be extremely useful if learners had access to a range of tools and equipment commonly used in engineering. It may be possible to arrange a visit to an engineering company to extend learners' awareness of the range of resources used in engineering. A typical centre engineering workshop should be equipped with the basic requirements of this unit, including marking-out equipment, hand tools, measuring equipment and benches. All supporting auxiliary equipment should be available together with appropriate safety equipment. Workshops should be staffed appropriately to ensure that health and safety requirements are met. Technician support may be required during practical work.

Unit 10: Developing Skills in Using a Bench/Pedestal Drilling Machine	It would be useful if learners had access to a range of equipment commonly used in engineering. A visit to an engineering company would be useful to extend awareness of the range of resources used in engineering. A typical centre engineering workshop should be equipped with the basic requirements for the unit including marking out equipment, hand tools, measuring equipment and bench/pillar drilling machines. Supporting auxiliary equipment should be available together with appropriate safety equipment. Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.
Unit 11: Developing Skills in Assembling Mechanical Components	It would be useful if learners had access to a range of equipment commonly used in engineering. A visit to an engineering company would be useful to extend learner awareness of the range of resources used in engineering. A typical centre engineering workshop should be equipped with the basic requirements for the unit, including a range of mechanical fastening devices, tools and equipment for assembly operations. Supporting auxiliary equipment should be available together with appropriate safety equipment. Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Unit 12: Developing Skills in Electronic Assembly	A typical centre engineering workshop should be equipped with the basic requirements for the unit, including a range of electronic assembly equipment and components, and tools and equipment for assembly operations. Supporting auxiliary equipment should be available together with appropriate safety equipment. Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.
Unit 13: Developing Skills in Wiring Electrical Circuits and Components	A typical centre engineering workshop should be equipped with the basic requirements for the unit, including a range of electrical wiring equipment and components, cables, tools and equipment for assembly operations. Supporting auxiliary equipment should be available together with appropriate safety equipment. Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.
Unit 14: Developing Skills in Routine Servicing of Mechanical Equipment	A typical centre engineering workshop should be equipped with the basic requirements for the unit, including a range of mechanical systems or equipment and components, tools and equipment for servicing operations. Supporting auxiliary equipment should be available together with appropriate safety equipment. Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Unit 15: Developing Skills in Planning and Making a Machined Product	It would be useful if learners had access to a range of equipment commonly used in engineering. A visit to an engineering company would be useful to extend awareness of the range of resources used in engineering. A typical centre engineering workshop should be equipped with the basic requirements for the unit, including a range of grinding, milling and turning machines. Supporting auxiliary equipment should be available together with appropriate safety equipment. Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.
Unit 19: Managing Money Matters	Learners need access to an interactive whiteboard and/or individual PCs.
Unit 20: Learning with Colleagues and Other Learners	Learners need opportunities to work alongside co-workers or other learners.
Unit 21: Career Progression	Learners need access to a range of career-related resources such as websites, publications, tutors and careers advisers.
Unit 25: Career Progression	Learners need access to a range of career-related resources such as websites, publications, tutors and careers advisers.

Unit 27: Producing a Product	Learners need access to an area suitable for the practical activities undertaken, for example a workshop or practical workroom. A variety of materials, including wood, metal, and fabrics will enable learners to become familiar with the properties of different materials. Depending on the product or item the learner will be producing, appropriate safety gear and equipment are required. Learners need to know the location of first-aid supplies and support. Where photographs and recordings, audio and video are to be used as evidence, appropriate equipment is needed.
Unit 30: Learning with Colleagues and Other Learners	Learners need opportunities to work alongside co-workers or other learners.

6 Assessment

The table below gives a summary of the assessment methods used in the qualifications.

Units	Assessment method
All units	Centre-devised assessment

Centre-devised assessment (internal assessment)

Centres are encouraged to give learners realistic scenarios and maximise the use of practical activities in delivery and assessment.

To avoid over assessment, centres are encouraged to link delivery and assessment across units.

Each unit has specified learning outcomes and assessment criteria. To pass an internally assessed unit, learners must meet all the assessment criteria. Centres may find it helpful if learners index and reference their evidence to the relevant learning outcomes and assessment criteria.

Centres need to write assignment briefs for the learners to show what evidence is required. Assignment briefs should indicate clearly which assessment criteria are being targeted.

Assignment briefs and evidence produced by learners must also meet any additional requirements in the *Information for tutors* section of the unit.

Unless otherwise indicated in *Information for tutors*, the centre can decide the form of assessment evidence (for example performance observation, presentations, projects, tests, extended writing) as long as the methods chosen allow learners to produce valid, sufficient and reliable evidence of meeting the assessment criteria.

There is more guidance about internal assessment on our website.

7 Centre recognition, approval and quality assurance

Centres that have not previously offered Pearson qualifications need to apply for, and be granted, centre recognition as part of the process for approval to offer individual qualifications. New centres must complete a Centre Approval Form.

Existing centres get 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by the new qualification and the conditions for automatic approval are met. Centres that already hold Pearson centre approval are able to apply for qualification approval for a different level or different sector via Edexcel Online, up to and including Level 3 only.

In some circumstances, qualification approval using Edexcel Online may not be possible. In such cases, guidance is available as to how an approval application may be made.

Approvals agreement

All centres are required to enter into an approval agreement that is a formal commitment by the head or principal of a centre to meet all the requirements of the specification and any associated codes, conditions or regulations. We will act to protect the integrity of the awarding of qualifications. If centres do not comply with the agreement, this could result in the suspension of certification or withdrawal of approval.

Quality assurance of centres

Quality assurance is at the heart of vocational qualifications. The centre assesses BTEC qualifications. The centre will use quality assurance to make sure that their managers, internal verifiers and assessors are standardised and supported. We use quality assurance to check that all centres are working to national standards. It gives us the opportunity to identify and provide support, if needed, to safeguard certification. It also allows us to recognise and support good practice.

For the qualifications in this specification, the Pearson quality assurance model will follow the processes listed below:

- an annual visit to the centre by a Centre Quality Reviewer to review centre-wide quality assurance systems
- Lead Internal Verifier accreditation. This involves online training and standardisation of Lead Internal Verifiers using our OSCA platform, accessed via Edexcel Online.
- For further details please go to the *UK Vocational Quality Assurance Handbook* on our website.

8 Access to Pearson qualifications

Access and recruitment

Approved centres must select learners who will benefit from the qualification as judged by their interest, aptitude and progression expectations.

Our policy regarding access to our qualifications is that:

- they should be available to everyone who is capable of reaching the required standards
- there should be no barriers that restrict access and progression
- there should be equal opportunities for all those wishing to access the qualifications
- there should be a fair and open access and recruitment process

Centres are required to recruit learners to Pearson qualifications with integrity.

Applicants will need relevant information and advice about the qualification to make sure it meets their needs.

Centres should review the applicant's prior qualifications and/or experience, considering whether this profile shows that they have the potential to achieve the qualification.

For learners with disabilities and specific needs, this review will need to take account of the support available to the learner during teaching and assessment of the qualification. The review must take account of the information and guidance in the section *Access to qualifications for learners with disabilities or specific needs*.

Recognition of Prior Learning and Achievement

Recognition of Prior Learning (RPL) is a method of assessment (leading to the award of credit) that considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and so do not need to develop through a course of learning.

We encourage centres to recognise learners' previous achievements and experiences in and outside the workplace, as well as in the classroom. RPL provides a route for the recognition of the achievements resulting from continuous learning.

RPL enables recognition of achievement from a range of activities using any valid assessment methodology. If the assessment requirements of a given unit or qualification have been met, the use of RPL is acceptable for accrediting a unit, units or a whole qualification. Evidence of learning must be sufficient, reliable and valid.

Further guidance is available in the policy document *Recognition of Prior Learning Policy and Process*, which is on our website.

Access to qualifications for learners with disabilities or specific needs

Equality and fairness are central to our work. Pearson's *Equality Policy* requires all learners to have equal opportunity to access our qualifications and assessments. It also requires our qualifications to be awarded in a way that is fair to every learner.

We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve from undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Learners taking a qualification may be assessed in British sign language or Irish sign language where it is permitted for the purpose of reasonable adjustments.

Details on how to make adjustments for learners with protected characteristics are given in the policy document *Supplementary guidance for reasonable adjustment and special consideration in vocational internal assessed units*, which should be read in conjunction with the JCQ policy *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational qualifications*.

The documents are on our website at qualifications.pearson.com

9 Units

Units have the following sections.

Unit title

This is the formal title of the unit that will appear on the learner's certificate.

Unit reference number

Each unit is assigned a unit reference number that appears with the unit title on the Register of Regulated Qualifications.

Level

All units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors defined by Ofqual, the qualifications regulator.

Credit value

When a learner achieves a unit, they gain the specified number of credits.

Guided learning hours

Guided Learning Hours (GLH) is the number of hours that a centre delivering the qualification needs to provide. Guided learning means activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study.

Unit aim

This gives a summary of what the unit aims to do.

Unit introduction

The unit introduction gives the reader an appreciation of the unit in the vocational setting of the qualification, as well as highlighting the focus of the unit. It gives the reader a snapshot of the unit and the key knowledge, skills and understanding gained while studying the unit. The unit introduction also highlights any links to the appropriate vocational sector by describing how the unit relates to that sector.

Essential resources

This section lists any specialist resources needed to deliver the unit. The centre will be asked to make sure that these resources are in place when it seeks approval from Pearson to offer the qualification.

Learning outcomes

Learning outcomes of a unit set out what a learner knows, understands or is able to do as the result of a process of learning.

Assessment criteria

Assessment criteria specify the standard required by the learner to achieve each learning outcome.

Unit amplification

This section clarifies what a learner needs to know to achieve a learning outcome.

Information for tutors

This section gives tutors information on delivery and assessment. It contains the following subsections.

- *Delivery* – explains the content's relationship to the learning outcomes and offers guidance on possible approaches to delivery.
- *Assessment* – gives information about the evidence that learners must produce, together with any additional guidance if appropriate. This section should be read in conjunction with the assessment criteria.
- *Suggested resources* – lists resource materials that can be used to support the teaching of the unit, for example books, journals and websites.

Unit 1: Introduction to the Construction and Engineering Sectors

Unit reference number: R/506/2408

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

The aim of this unit to introduce learners to various job roles and the skills required for employment in the construction and engineering sectors. The unit will enable learners to produce a career plan.

Unit introduction

This unit introduces learners to the different specialist areas that make up the construction and engineering sectors. The unit will help learners to identify the variety of careers available in each of these specialist areas, at all levels.

Learners will have the opportunity to explore the different types of businesses that operate within the construction and engineering sectors in terms of their size and the type of work they undertake.

Learners will develop an understanding of the skills required to work in the construction and engineering sectors, including the core sector-related skills, the skills required to work sustainably, and the transferable skills valued by employers, for example having the right attitude and demonstrating appropriate behaviour in line with the legal and ethical issues.

Some learners might choose to be self-employed and the unit helps to develop an understanding of financial control and resourcing.

Learners will produce an outline career plan that will help them to make decisions on career choices, they will reflect on the effect of these choices on their lifestyle.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know about the construction and engineering sectors	1.1	Describe areas within the construction and engineering sectors	□ *Construction:* domestic, industrial, commercial, heritage, infrastructure □ *Engineering:* manufacturing, production, automotive, aerospace, electronics, control □ *Work undertaken:* construction, e.g. large public works, infrastructure, speculative house building, new build, conversion and adaptation, maintenance and repair; engineering, e.g. manufacture and supply of materials and components, manufacturing and servicing
		1.2	Describe types of business that offer employment opportunities in the construction and engineering sectors	□ *Types:* large contractors and manufacturers; Small and Medium Enterprises (SMEs); sole traders; Public Limited Companies (PLCs); multi-national organisations □ *Working for a business:* full-time or part-time; self-employed and freelance working; permanent or short-term contracts; partnerships; public sector
2	Know the opportunities available in the construction and engineering sectors	2.1	Identify job roles within the construction sector	□ *Job roles:* professional and technical e.g. site manager, project manager, facilities manager, architect, architectural technologist, surveyor, civil engineer, structural engineer, building services engineer; craft, e.g. bricklayer, carpenter, joiner, painter, decorator, plumber, electrician, plasterer, stonemason, roofer, wall and floor tiler, groundworker; operative, e.g. plant operator, general construction operative skilled or unskilled

Learning outcomes		Assessment criteria		Unit amplification
		2.2	Identify job roles within the engineering sector	□ *Job roles:* professional and technical, e.g. design engineer, production management, development engineer, maintenance management, facilities management; craft or operative, e.g. machinist, fitter, CAD operator; skilled or unskilled
		2.3	Identify the common skills required for employment in the construction and engineering sectors	□ *Common skills*: interpreting information from engineering and construction drawings such as marking out, fabrication details, erection on site; job-specific skills, e.g. competency and relevant qualifications; understanding and working within legislation, e.g. health and safety regulations
3	Be able to work in a sustainable manner	3.1	Describe methods used to work in a sustainable manner	□ *Methods used to work in a sustainable manner*: planning, designing, making and installing products and components in a sustainable manner e.g. low carbon construction and manufacturing, waste minimisation
		3.2	Use calculations to work sustainably	□ *Calculations to work sustainably*: e.g. calculations for correctly marking out; correct calculation of materials to be used for fabrication or on site; calculating accurate quantities of construction materials
4	Be able to make informed career choices	4.1	Produce an outline career plan	□ *Outline career plan*: choosing a job role or career of interest; identifying the routes to employment and progression, e.g. education, training and development, robust mental and physical good health; outlining an individual plan as how to achieve this
		4.2	Explain how the career choices will impact upon individual lifestyle	□ *Impact of career choice*: job satisfaction; sense of identity; financial and social benefits; conditions of work, e.g. tight deadlines, working away from home or abroad, weekend working, flexitime, long hours of work, time spent travelling to work; impact, e.g. effect on family life, social life and personal relationships, stress levels, mental and physical demands

Information for tutors

Delivery

The purpose of this unit is to encourage learners to think realistically about what it would be like to work in construction or engineering sectors and, more particularly, to help learners match their skills, qualities and aspirations to a job they feel they might want to do.

For learning outcome 1, learners need to know the different areas within the construction and engineering sectors, and describe them in terms of the variety of works undertaken. Learners will need an overview of both sectors in terms of the types of organisations, and the types of employment opportunities. Learners should be made aware that while there are large organisations that dominate the industry, much of the UK construction and engineering sectors are made up of smaller organisations.

Learning outcome 2 is about the range of job roles available in the construction and engineering sectors. Tutors should focus on job descriptions, qualification and skills' requirements, and training and development. The delivery of job roles and responsibilities should highlight the difference between craft and technician roles and engineering craft or technical apprenticeships. Tutors should provide examples of where engineering and construction work hand in hand, such as in modular construction where components are fabricated off site and assembled on site. Centres may consider using guest speakers from the construction and engineering sectors, especially those who have followed a vocational route, as a likely source of inspiration and motivation for learners.

For learning outcome 3 tutors should introduce learners to the importance of working in a sustainable manner. Learners will develop an understanding of concepts such as low carbon construction and manufacturing, and how minimising waste is key to sustainability. The tutor should stress the importance of minimising waste while planning, designing, making and installing products and components and while planning, designing and carrying out construction work. Learners will use calculations relating to correct marking out, determining materials required for fabrication, and determining accurate quantities of construction materials.

For learning outcome 4, learners need to produce an outline career plan. This is the application of their learning in learning outcomes 1 and 2 to their career choices. Tutors can assist learners by providing useful resources such as directories of organisations, job descriptions, and job advertisements. The plan must be individual to the learner and demonstrate a structured approach, including:

- their personal skills and qualities
- the skills and qualities they wish to acquire
- the type of organisation they would like to work for
- the needs and wants of the organisation chosen in terms of work undertaken, physical location, size and structure
- an indication of the timescales
- how the job could affect their lifestyle.

Outline learning plan

The outline-learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know about construction and engineering sectors Introduction to unit and programme of learning Tutor-led discussion and presentation considering construction and engineering sectors – What do they do? Visual/aural examples from both sectors showing the nature of work undertaken. Introduce case studies – visits from people from the construction and engineering sectors, including those who have progressed following a vocational route as well as self-employed and those who work on short-term contracts. Whole-class, tutor-led discussions supported by small-group research into the different types of businesses offering career opportunities in construction and engineering, followed by group presentations of findings. Source material to include books, CD ROMs, newspapers, trade magazines and the internet. Learners work in small groups to research examples of employment models in both sectors, for example direct employed, self-employed/freelancer, sole trader, short-term contract. Group discussion – tutor to outline the validity of all the different models of employment and how they provide a structure for employment in both sectors. Assessment – individual learner activity. Learner presents to peers, outlining findings. Tutor uses observation to record learner's performance in the presentation against the assessment criteria. Evidence submitted includes notes/folder of research and findings (Learning Outcome 1).
Know the opportunities available in the construction and engineering sectors Whole-class, tutor-led discussion – builds on learning outcome 1. Adds detail to the work undertaken in both sectors. Tutor presentation of job roles, detailing the job characteristics, and the skills required to perform them. The presentation could consider examples of an integrated engineering and construction project. Case studies – opportunity to arrange visits from people from the construction and engineering sectors to deliver talks/seminars/workshops to learners, explaining their role and what it is they do, with examples. Learners work in small groups to research skills common to all job roles such as interpreting information from given drawings. This should combine construction and engineering e.g. fabrication of steel beams and erection on site, modular construction, pods, etc. Learners to carry out research regarding the health and safety legislation in which both sectors operate.

Topic and suggested assignments/activities
Assessment – individual research into the different job roles in the construction and engineering sectors, followed by a presentation of findings. Tutor uses observation to record performance in the presentation against the assessment criteria. Evidence submitted includes notes/folder of research and findings (learning outcome 2).
Be able to work in a sustainable manner Case studies, including visits from people from the construction and engineering sectors to deliver talks/seminars/workshops to learners, explaining the importance of sustainable practices and how these are achieved, with examples. Learners carry out research regarding sustainability relevant to the construction and engineering sectors e.g. waste minimisation, low-carbon construction and manufacturing. Whole-class, tutor-led discussion on minimising waste, and how this can be achieved by accurate marking out, and calculations of required materials. Tutor to provide worked examples of calculations. Group activity: working in small groups, learners to produce calculations relating to marking out and quantities of materials required. Tutor to facilitate, support and emphasise the importance of this work. Assessment – individual leaner activity. Learner presents to peers, outlining findings of research. Tutor uses observation to record performance in the presentation against the assessment criteria. Learner to complete a calculation sheet. Evidence submitted includes notes/folder of research and findings as well as calculations supported with illustrations, sketches, etc. (Learning Outcome 3).
Be able to make informed career choices Whole-class, tutor-led discussion – 'How to provide a structure to the decision-making process'. Build on the earlier learning and show at least one example of how a career plan is developed based on the information gathered so far. Whole-class, tutor-led discussions – how career choices can impact on an individual's lifestyle, with a question and answer session to draw out learners' thoughts on the potential personal impact of several different career choices. Individual work – production of an outline career plan, including the possible impact on their lifestyle. Tutor to facilitate and support learners individually in making a career choice and the possible routes to achieve their career goal, e.g. education, training and development, robust mental and physical good health. Assessment – individual presentations to peers, outlining findings. Tutor uses observation to record performance in the presentations against the assessment criteria. Evidence submitted includes a career plan, notes/folder of research and findings (Learning outcome 4)

Assessment

The centre will devise and mark the assessment for this unit. Learners must meet all assessment criteria to pass the unit.

Learners can submit work for this unit using a combination of written and verbal formats. Tutors can assess them using observation records and other assessment methods. Learners will submit an individual career plan as well as a basic portfolio of research that addresses the learning outcomes, supported by presentations and discussions.

The use of one assessment instrument is suggested as being sufficient to allow full coverage of the learning outcomes, although assessment may be conducted in two discrete parts to avoid assessment overload. The assessment instrument would, therefore, cover all assessment criteria. Assessment could be divided into two parts: firstly 1.1, 1.2, 2.1, 2.2 and 2.3 and, secondly, 3.1, 3.2, 4.1 and 4.2. The assessment could be based around a single project involving both construction and engineering specialisms.

For 1.1, learners must describe at least four areas within construction and engineering in terms of division of work undertaken.

For 1.2, learners must describe two different types of businesses that offer employment opportunities in each of the two sectors. They should describe the businesses in terms of their size and the nature of the work they undertake. For each sector, one organisation should be a large business engaged in major projects and the other a small or medium enterprise (SME) engaged in smaller projects. A highly-detailed answer is not required but the types of business, and the nature of their work, must be clearly differentiated.

For 2.1, learners must identify two different types of job role within the construction sector in terms of the specific roles and responsibilities. One career should relate to professional and technical opportunities and the other to craft and operative job opportunities. A highly-detailed answer is not required but the two types of job role must be clearly differentiated.

For 2.2, learners must identify two different types of job role within the engineering sector in terms of the specific roles and responsibilities. One career should relate to professional and technical opportunities and the other should relate to craft and operative job opportunities. A highly-detailed answer is not required but the two types of job role must be clearly differentiated.

For 2.3, learners must identify the common skills required for employment in construction and engineering sectors. Learners should present information about the broad range of skills as listed in the *Unit amplification* that are needed to work within both the sectors based around the given project.

For 3.1, learners must describe the methods required to work in a sustainable manner. Learners should identify how planning, designing, making and installing products and components accurately, helps in minimising waste and hence improves sustainability.

For 3.2, learners must use simple calculations relating to marking out and quantities of materials. Appropriate illustrations or sketches should support the work. These calculations should be straightforward and used to emphasise the importance of accuracy in achieving sustainable practices.

For 4.1, learners must produce an individual outline career plan. They must demonstrate the ability to make career choices based on the information provided by their tutor. This information should relate to the training and development needed for a range of different jobs and the nature of the different businesses for which they might work.

For 4.2, learners must explain how their career choices impact on their individual lifestyle, in terms of the training and development they will need, their general state of health, the conditions under which they will work, the possible effect on their personal relationships and the general demands of the chosen career. The evidence could take the form of a presentation and/or oral examination alongside 4.1.

Suggested resources

Books

Echaore-McDavid & McDavid – Career Opportunities in Engineering (Career Opportunities) (Infobase Publishing, 2009) ISBN 9781438110707

Osbourn D and Greeno R – Introduction to Building, 4th edition (Prentice Hall, 2006) ISBN 978 0132325714

Topliss S and Murray-Smith J – BTEC Entry 3/Level 1 Construction Student Book (Pearson, 2010) ISBN 9781846909207

Journals

Construction Manager ISSN 1360-3566

Construction News ISSN 0010-9637

Engineering Magazine ISSN 0013-7782

Engineering and Technology Magazine ISSN 1750-9367

New Civil Engineer ISSN 0307-7683

Websites

www.citb.org.uk/careers	Construction Industry Training Board career advice
https://nationalcareersservice.direct.gov.uk	National Careers Service
www.icould.com	Young people's career advice
www.lifecoachexpert.co.uk	Advice on working and lifestyle
www.semta.org.uk	Sector Skills Council – *Science Engineering and Manufacturing Technologies*
www.summitskills.org.uk	Sector Skills Council – *Building Services Engineering*
www.engineerjobs.co.uk	Engineer recruitment site
www.worketiquette.co.uk	Advice on workplace conduct
www.worksmart.org.uk/career	Career guidance from the Trades Union Council (TUC)
www.yourcareerguide.co.uk	Career advice and guidance
www.citb.org.uk/careers	Construction Industry Training Board career advice

Unit 2: Developing Bricklaying Skills

Unit reference number: J/502/3685

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

The aim of this unit is to introduce learners to the hand tools, materials and personal protective equipment (PPE) used in bricklaying. The unit gives learners the opportunity to develop the skills needed to construct basic brickwork structures.

Unit introduction

Emphasis is placed on the correct selection and safe use of the appropriate tools and equipment required to carry out basic bricklaying processes.

Learners will be given the opportunity to practise the bricklaying techniques used to construct basic brickwork structures, and to use these techniques to construct a half-brick wall in an acceptable time.

Although learners will work independently when constructing their half-brick wall, they will also function as effective members of a team by contributing to the maintenance of a clean and tidy workshop, and by working responsibly with others.

When preparing for work in the construction industry it is important that learners are able to seek and respond to guidance from colleagues and tutors during the learning process. This unit will help learners to develop an understanding of the personal qualities that are valued by employers.

Essential resources

Learners need access to hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work, with adequate space for spot boards and the safe construction of brickwork models, adequate washing facilities for the removal of mortar from exposed skin, access to first–aid facilities, and storage of PPE.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know the hand tools used in basic bricklaying processes	1.1	List and describe appropriate hand tools to be used in basic bricklaying processes	□ *Hand tools*: e.g. walling trowel, jointing iron, spirit level, builder's line and pins, tingle, club hammer, bolster chisel, hawk, soft brush
2	Know the materials used in basic bricklaying processes	2.1	List and describe appropriate materials to be used in basic bricklaying processes	□ *Materials*: bricks; lime-based mortar
3	Know the personal protective equipment (PPE) used in basic bricklaying processes	3.1	List and describe appropriate PPE to be used in basic bricklaying processes	□ *Personal protective equipment*: hard hat; eye protection; safety boots; high-visibility jacket; hand barrier cream □ *Basic bricklaying processes*: stack bricks; set out brickwork; lay mortar; butter vertical joints; lay bricks: plumb, level and gauge
4	Be able to apply safe working practices to produce half-brick walling	4.1	Select and use hand tools safely to lay bricks in stretcher bond, minimum seven bricks in length, minimum five courses high, with one stopped end	□ *Safe working practices*: compliance with advice and guidance given; safe maintenance, use and storage of tools and equipment □ *Half-brick walling*: straight lengths in stretcher bond; minimum seven bricks in length; minimum five courses high; one stopped end

Learning outcomes		Assessment criteria		Unit amplification
5	Be able to work responsibly with others	5.1	Maintain a clean and tidy work environment	□ *Behaviour*: e.g. responsibility, recognition of strengths and skills of self and other team members, cooperation, tidying 'as you go'
		5.2	Work responsibly in the workshop	
6	Be able to seek and respond to guidance when working as part of a team	6.1	Follow instructions when working with others	□ *Attitudes*: e.g. enthusiasm; approachability; communication skills, e.g. listening, questioning, communicating clearly; following instructions
		6.2	Communicate appropriately with others	

Information for tutors

Delivery

This unit will give learners their first experience of the practical skills associated with the production of brickwork together with the knowledge required to underpin these practical skills. Learners must be allowed considerable opportunity to develop their knowledge and practical skills and this should be facilitated through extensive use of supervised practical workshop activities, allied to group teaching and demonstration of the tools, equipment, materials, techniques and PPE involved.

Learners and tutors are encouraged to view the unit as a 'taster', in that it gives the learner an opportunity to experience the type of work involved in bricklaying.

All construction craft tasks are problems to be solved (often in three dimensions) with available tools and materials and within a given timescale. The solutions to the problems are the conventional techniques, methods and procedures that craftspeople have developed to address the work they face on a daily basis. Learners will need to discuss the materials, tools, equipment, PPE and techniques to be used with a responsible and competent person and should respond positively to any advice given. They should then select the tools, equipment, materials and PPE appropriate for the task in hand and use them to produce the specified brickwork task.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know the hand tools used in basic bricklaying processes. Whole-class, tutor-led discussion about hand tools. Individual work on tool identification sheets. Requisition tools from store.
Know the materials used in basic bricklaying processes. Site visit. presentation from qualified working bricklayer. Trip to builders' merchant.
Know the personal protective equipment (PPE) used in basic bricklaying processes. Whole-class, tutor-led discussion about PPE, when and where it is necessary and how it works. Individual work on PPE identification sheets. Learners complete requisition sheets to obtain PPE from store. Learners given opportunities to select and wear the full range of PPE used in brickwork.
Practise the processes used to produce basic brickwork structures. Practical demonstration of how to keep work areas tidy. The hand-to-eye motor skills associated with bricklaying are best taught by the tutor demonstrating the skills required, followed by the learners practising the skills. The tutor should monitor learners as they practise their skills and provide guidance, advice, correction or praise, as appropriate.

Be able to apply safe working practices to produce half-brick walling. Assessment –Two hours for learners to demonstrate knowledge of the hand tools, materials and PPE to be used in the practical assessment task. Evidence of selection or de-selection of each required. This can be achieved by completion of in-house requisition forms or similar. Four hours to demonstrate use of safe working practices to construct basic brickwork structure.
Be able to work responsibly with others. Use of health and safety videos/DVDs to demonstrate the dangers of a dirty and untidy workplace. Discussion of important role played by on-site personnel behaving in a cooperative and responsible manner. Constant encouragement from tutors to 'tidy as you go' during practical bricklaying sessions.
Be able to seek and respond to guidance when working as part of a team. Tutors should encourage learners to ask questions about their work. This could be prompted by tutors asking learners to explain what they are doing, and why they are doing it, or to name a tool or an item of PPE as they work. Learners should be aware that their attitude, and the nature of their responses to any advice provided, will comprise part of the evidence required to achieve the unit. This requires no formal allocation of time and should occur during practice and assessment.

Assessment

Achievement of assessment criteria should be evidenced through contextualised, vocationally related practical experiences with tasks specifically designed with the assessment criteria in mind. Many criteria will need to be assessed directly by the tutor during practical activities. Where this approach is used, suitable evidence from guided activities would require observation records and/or witness statements.

The use of two assessment instruments is suggested to allow full coverage of the outcomes. The first assessment instrument would comprise 1.1, 2.1 and 3.1 and should focus upon the correct selection of the tools, materials and PPE required to complete the brickwork task and the reason why each is deemed to be appropriate. The second assessment instrument would comprise 4.1, 5.1, 5.2, 6.1 and 6.2, and should focus on the completion of the practical brickwork task.

For 1.1, learners must list and describe commonly used hand tools. This will be evidenced most clearly by completion of appropriate requisition orders.

For 2.1, learners must list and describe the correct materials to be used to complete the brickwork task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 3.1, learners must list and describe the appropriate PPE to be worn or used when completing the brickwork task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 4.1, learners must be able to select and use tools, materials and PPE to construct a brick wall to the following specification: straight lengths in stretcher bond, minimum seven bricks in length, minimum five courses high, one stopped end. Learners must be aware of the need to lay bricks plumb, level and to gauge, but there are no specified tolerances at this level. It is anticipated that considerable guidance will be given to learners. Photographs, observation records and witness statements could be provided as evidence. Learners need to follow safe working practices.

For 5.1 and 5.2, learners must maintain a clean and tidy workspace and work responsibly with others. Learners should be aware of any hazards associated with the practical tasks they perform but they need not produce risk assessments or suggest control measures. The evidence could take the form of a witness statement.

For 6.1 and 6.2, learners must demonstrate responsibility by seeking and listening to guidance and clarification from tutors as and when appropriate, and by acting on the guidance received. They should communicate appropriately with tutors and other learners at all times. The evidence could take the form of a witness statement.

Suggested resources

Books

Brett P – *A Building Craft Foundation: Levels 1 & 2* (3rd Revised Edition) (Nelson Thornes, 2007) ISBN 9780748781843

Brick Development Association – *BDA Guide to Successful Brickwork* (3rd Edition) (Butterworth-Heinemann, 2005) ISBN 9780750664691

Websites

www.ciob.org.uk	Chartered Institute of Building
www.citb.co.uk	Construction Industry Training Board
www.hse.gov.uk	Health and Safety Executive
www.iosh.co.uk	Institution of Occupational Safety and Health
www.rospa.co.uk	Royal Society for the Prevention of Accidents
www.rtpi.org.uk	The Royal Town Planning Institute

Unit 3: Developing Carpentry Skills

Unit reference number: R/502/3687

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

This unit is designed to introduce learners to the hand tools, materials, personal protective equipment (PPE) and skills used in carpentry. Learners will have the opportunity to produce a carpentry item.

Unit introduction

Emphasis is placed on the correct selection and safe use of the appropriate tools and equipment required to carry out basic carpentry tasks.

Learners will be given the opportunity to practise the basic techniques used in carpentry, and to use these techniques to construct a carpentry item.

Although learners will work independently when constructing their carpentry item, they will also function as effective members of a team by contributing to the maintenance of a clean and tidy workshop, and by working responsibly with others.

When preparing for work in the construction industry it is important that learners are able to seek and respond to guidance from colleagues and tutors during the learning process. This unit will help learners to develop an understanding of the personal qualities that are valued by employers.

Essential resources

Learners will require access to carpentry workbenches, hand tools, materials, fixings and equipment of a nature and standard typical of a proper work environment.

The learning environment must be a safe place of work. Adequate workshop space must be provided for the safe storage and use of timber, as well as adequate washing facilities, access to first aid facilities and storage for PPE.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know the hand tools used in basic carpentry processes	1.1	List and describe appropriate hand tools to be used in basic carpentry processes	□ *Hand tools*: e.g. steel rule, tri-square, sliding bevel, pencil, marking/mortice gauge, mallet, tenon saw, mitre box, mortice/bevel-edged chisels, nail punch, claw hammer, wheel brace, twist drill bits, screwdrivers, smoothing plane, abrasive paper and block, straight edge, winding sticks, bradawl
2	Know the materials used in basic carpentry processes	2.1	List and describe appropriate materials to be used in basic carpentry processes	□ *Materials*: softwood timber; Polyvinyl Acetate glue (PVA); oval nails; panel pins; wood screws; hinges
3	Know the personal protective equipment (PPE) used in basic carpentry processes	3.1	List and describe appropriate PPE to be used in basic carpentry processes	□ *Personal protective equipment*: e.g. eye protection, safety boots, dust mask, ear defenders, and other personal protective equipment as appropriate □ *Basic carpentry processes*: plane sawn timber; fixing hinges, cutting mitres, fixing beading/moulding
4	Be able to apply safe working practices to produce a carpentry item	4.1	Select and use hand tools safely to make a carpentry item (photograph display item with hinge(s)) in an acceptable time	□ *Safe working practices*: compliance with advice and guidance given; safe maintenance, use and storage of tools and equipment □ *Carpentry item*: timber photograph/mirror display item with hinge(s)

Learning outcomes		Assessment criteria		Unit amplification
5	Be able to work responsibly with others	5.1	Maintain a clean and tidy work environment	□ *Behaviour*: e.g. responsibility, recognition of strengths and skills of self and other team members, cooperation, tidying 'as you go'
		5.2	Work responsibly in the workshop	
6	Be able to seek and respond to guidance when working as part of a team	6.1	Follow instructions when working with others	□ *Attitudes*: e.g. enthusiasm; approachability; communication skills, e.g. listening, questioning, speaking clearly; following instructions
		6.2	Communicate appropriately with others	

Information for tutors

Delivery

This unit will give learners their first experience of the practical skills associated with the production of a basic carpentry item, together with any job knowledge required to underpin such practical skills. Learners must be given opportunities to develop their knowledge and practical skills through supervised workshop activities, group teaching and demonstrations of the theories, equipment and techniques involved.

Learners will need to practise planing a piece of sawn timber, cutting and fixing a steel hinge, and also cutting beading or moulding using a mitre box. Tutors must demonstrate these skills and techniques. Learners will use the skills and techniques to produce the assessment work (a display item).

Tutors may wish to use regularised timber for learners to plane for the assessment work. The unit content states that learners have to only plane timber and *not* prepare the timber completely.

The most important requirement of the unit is that learners are given opportunities to practise carpentry techniques and procedures. To do this they must be able to recognise and select the tools, materials and PPE needed to work safely. Tutors will therefore need to demonstrate correct selection and use of the appropriate hand tools, materials and PPE. They must also demonstrate the practical carpentry skills required and monitor learners' performance as they practise their skills. Tutors should correct poor practice and commend good practice. Tutors must encourage learners to ask for help and advice when necessary and to maintain a clean and tidy workplace. They should encourage the reliable, positive and enthusiastic response to learning that employers value in prospective employees.

Learners and tutors are encouraged to view the unit as a 'taster', in that it gives the learner an opportunity to experience the type of work involved in carpentry.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know the hand tools used in basic carpentry tasks. Whole-class, tutor-led discussion about hand tools. Individual work on tool identification sheets. Tool requisition sheets.
Know the materials used in basic carpentry tasks. Site visit. Presentation from qualified working carpenter. Trip to timber yard suppliers. Material requisition sheets.
Know the personal protective equipment (PPE) used in performing basic carpentry tasks. Whole-class, tutor-led discussion about PPE, when and where it is necessary and how it works. Individual work on PPE identification sheets. PPE requisition sheets. Learners to be provided with opportunities to select and wear PPE appropriate to the task.

Topic and suggested assignments/activities
Practise the processes used to produce basic carpentry item. Practical demonstration of how to keep individual work areas tidy. The hand-to-eye motor skills associated with carpentry are best taught by the tutor demonstrating the skills required, followed by the learners practising the skills. The tutor should monitor the learners as they practise their skills and provide guidance and advice, and correction or praise, as appropriate.
Be able to apply safe working practices to produce a carpentry item. Assessment. Two hours to produce the paperwork required in the form of requisition forms/tool identification sheets. Four hours to produce carpentry item. Practical assessment evidence could be a photograph and a learner's description of what they have done.
Be able to work responsibly with others. Use of health and safety videos to demonstrate the dangers of a dirty and untidy workplace. Discussion of important role played by on-site personnel behaving in a cooperative and responsible manner. Constant encouragement from tutors to 'tidy as you go' during practical carpentry workshop sessions.
Be able to seek and respond to guidance when working as part of a team. Tutors should encourage learners to ask questions about their work. This could be prompted by tutors asking learners to explain what they are doing, and why they are doing it, or to name a tool or an item of PPE as they work. Learners should be aware that their attitude, and the nature of their responses to any advice provided, will comprise part of the evidence required to achieve the unit. This requires no formal allocation of time and should occur during practice and assessment.

Assessment

The evidence can be provided by a single practical assignment covering all of the assessment criteria for the unit. Achievement of assessment criteria should be evidenced through vocationally related practical experiences with tasks specifically designed with the assessment criteria in mind. Many of the assessment criteria will need to be assessed directly by the tutor during practical activities. Where this approach is used, suitable evidence from guided activities would require observation records and/or witness statements plus photographs of the completed work.

For 1.1, learners must list and describe the hand tools to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders or tool identification sheets.

For 2.1, learners must list and describe the materials to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders or materials identification sheets.

For 3.1, learners must list and describe the items of PPE to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders or PPE identification sheets.

For 4.1, learners must be able to produce a display carpentry item. It is anticipated that considerable guidance may need to be provided to learners at this level. There is no requirement for the work to comply with specific tolerances, or to demonstrate a professional standard. It is sufficient that the task has been completed. Photographs, observation records and witness statements could be provided as evidence. Learners need to follow safe working practices.

For 5.1 and 5.2, learners should work as part of a team to create and maintain a clean and tidy work environment. They must also work responsibly when producing the basic carpentry item in the workshop. The evidence could take the form of a witness statement.

For 6.1 and 6.2, learners must be able to seek guidance from tutors and other experienced persons. Learners must follow instructions and communicate appropriately with other learners and with their tutors and/or instructors. The evidence could take the form of a witness statement.

Suggested resources

Books

Brett P – *Wood Occupations: Level 1* (Nelson Thornes, 2007) ISBN 9780748781836

Porter B – *Carpentry and Joinery Volume 1* (Butterworth-Heinemann, 2001) ISBN 9780750651356

Topliss S and Murray-Smith J – *BTEC Entry 3/Level 1 Construction Student Book* (Pearson, 2010) ISBN 9781846909207

Websites

www.geoffswoodwork.co.uk	Geoff's Woodwork – woodworking advice and skills
www.getwoodworking.com	Get Woodworking – woodworking advice and skills
www.hse.gov.uk	Health and Safety Executive

Unit 4: Developing Joinery Skills

Unit reference number: H/502/3693

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

This unit is designed to introduce learners to the hand tools, materials, personal protective equipment (PPE) and skills used in joinery. Learners will have the opportunity to produce a joinery item.

Unit introduction

Emphasis is placed on the correct selection and safe use of the appropriate tools, materials and equipment required to carry out basic joinery tasks.

Learners will be given the opportunity to practise the wood-jointing techniques used to construct basic wood joints, and to use these techniques to construct a simple joinery item in an acceptable time.

Although learners will work independently when constructing their joinery item, they will also function as effective members of a team by contributing to the maintenance of a clean and tidy workshop, and by working responsibly with others.

When preparing for work in the construction industry it is important that learners are able to seek and respond to guidance from colleagues and teachers during the learning process. This unit will help learners to develop an understanding of the personal qualities that are valued by employers.

Essential resources

Learners will require access to joinery work benches, joinery hand tools and materials of a nature and standard typical of a proper work environment.

The learning environment must be a safe place of work. Adequate workshop space must be provided for the safe storage and use of timber, as well as adequate washing facilities, access to first–aid facilities and storage for PPE.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know the hand tools used in basic joinery processes	1.1	List and describe appropriate hand tools to be used in basic joinery processes	□ *Hand tools*: e.g. steel rule, tri-square, sliding bevel, pencil, marking/mortice gauge, mallet, tenon saw, mortice/bevel-edged chisels, nail punch, claw hammer, carpenter's brace, screwdrivers, smoothing plane, abrasive paper and block, battery operated drills and screwdrivers
2	Know the materials and fixings used in basic joinery processes	2.1	List and describe appropriate materials and fixings to be used in basic joinery processes	□ *Materials*: softwood timber; Polyvinyl Acetate (PVA) glue; oval nails; panel pins; shrink plates, wood-screws
3	Know the personal protective equipment (PPE) used in basic joinery processes	3.1	List and describe appropriate PPE to be used in basic joinery processes	□ *Personal protective equipment*: e.g. eye protection, safety boots, dust mask, ear defenders, other PPE as appropriate □ *Basic joinery processes*: forming housing joint, tee halving joint, mortice and tenon joint
4	Be able to apply safe working practices to produce a joinery product	4.1	Select and use hand tools safely to produce a stool in an acceptable time	□ *Safe working practices*: compliance with advice and guidance given; safe maintenance, use and storage of tools and equipment □ *Joinery item*: stool

Learning outcomes		Assessment criteria		Unit amplification
5	Be able to work responsibly with others	5.1	Maintain a clean and tidy work environment	□ *Behaviour*: e.g. responsibility, recognition of strengths and skills of self and other team members, cooperation, tidying 'as you go'
		5.2	Work responsibly in the workshop	
6	Be able to seek and respond to guidance when working as part of a team	6.1	Follow instructions when working with others	□ *Attitudes*: e.g. enthusiasm; approachability; communication skills, e.g. listening, questioning, speaking clearly; following instructions
		6.2	Communicate appropriately with others	

Information for tutors

Delivery

This unit will give learners their first experience of the practical skills associated with the production of a basic joinery item, together with the knowledge required to underpin such practical skills. Learners must be given opportunities to develop their knowledge and practical skills through supervised workshop activities, group teaching and demonstrations of the theories, equipment and techniques involved.

Learners will need to practise marking out and cutting basic timber joints. Tutors must demonstrate these skills and techniques. Learners will use the skills and techniques to produce the assessment work (a stool).

The most important requirement of the unit is that learners are given opportunities to practise joinery techniques and procedures. To do this they must be able to recognise and select the tools, materials and PPE needed to work safely. Tutors will therefore need to demonstrate correct selection and use of the appropriate hand tools, materials and PPE. They must also demonstrate the practical joinery skills required and monitor learners' performance as they practise their skills. They must correct poor practice and commend good practice. Tutors must encourage the learners to ask for help and advice when necessary and to maintain a clean and tidy workplace. Tutors should encourage the reliable, positive and enthusiastic response to learning that employers value in prospective employees.

Learners and tutors are encouraged to view the unit as a 'taster', in that it gives the learner an opportunity to experience the type of work involved in joinery.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know the hand tools used in basic joinery processes. Whole-class, tutor-led discussion about hand tools. Individual work on tool identification sheets. Requisitioning tools from tools store.
Know the materials and fixings used in basic joinery processes. Site visit. Presentation from qualified working joiner. Trip to timber merchant.
Know the personal protective equipment (PPE) used in basic joinery processes. Whole-class, tutor-led discussion about PPE, when and where it is necessary and how it works. Individual work on PPE identification sheets. Completion of requisition sheets to obtain PPE from store. Learners given opportunities to select and wear the full range of PPE used in a joinery workshop.

Topic and suggested assignments/activities
Practise the processes used to produce basic wood jointing. Practical demonstration of how to keep individual work areas tidy. The hand-to-eye motor skills associated with joinery are best taught by the tutor demonstrating the skills required, followed by the learners practising the skills. The tutor should monitor learners as they practise their skills and provide guidance and advice, correction or praise, as appropriate.
Be able to apply safe working practices to produce a joinery product. Assessment–two hours to produce the paperwork required in the form of requisition forms/tool identification sheets. Four hours to produce joinery item.
Be able to work responsibly with others. Use of health and safety videos to demonstrate the dangers of a dirty and untidy workplace. Discussion of important role played by personnel behaving in a cooperative and responsible manner. Constant encouragement from tutors to 'tidy as you go' during practical joinery workshop sessions.
Be able to seek and respond to guidance when working as part of a team. Tutors should encourage learners to ask questions about their work. This could be prompted by tutors asking learners to explain what they are doing, and why they are doing it, or to name a tool or an item of PPE as they work. Learners should be aware that their attitude, and the nature of their responses to any advice provided, will comprise part of the evidence required to achieve the unit. This requires no formal allocation of time and should occur during practice and assessment.

Assessment

The evidence can be provided by a single practical assignment covering all of the assessment criteria for the unit. Achievement of assessment criteria should be evidenced through vocationally related practical experiences with tasks specifically designed with the assessment criteria in mind. Many of the assessment criteria will need to be assessed directly by the tutor during practical activities. Where this approach is used, suitable evidence from guided activities would require observation records and/or witness statements plus photographs of the completed work.

For 1.1, learners must list and describe the hand tools to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 2.1, learners must list and describe the materials to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 3.1, learners must list and describe the items of PPE to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 4.1, learners must be able to produce a joinery item. It is anticipated that learners at this level will need considerable guidance. There is no requirement for the work to comply with specific tolerances, or to demonstrate a professional standard. It is sufficient that the task has been completed. Photographs, observation records and witness statements could be provided as evidence. . Learners need to follow safe working practices.

For 5.1 and 5.2, learners should work as part of a team to create and maintain a clean and tidy work environment. They must also work responsibly with others when producing the joinery item in the workshop. The evidence could take the form of a witness statement.

For 6.1 and 6.2, learners must be able to seek guidance from tutors and other experienced people. Learners must follow instructions and communicate appropriately with other learners and with their tutors and/or instructors. The evidence could take the form of a witness statement.

Suggested resources

Books

Brett P – *Wood Occupations: Level 1* (Nelson Thornes, 2007) ISBN 9780748781836

Porter B – *Carpentry and Joinery Volume 1* (Butterworth-Heinemann, 2001) ISBN 9780750651356

Topliss S and Murray-Smith J – *BTEC Entry 3/Level 1 Construction Student Book* (Pearson, 2010) ISBN 9781846909207

Websites

www.geoffswoodwork.co.uk	Geoff's Woodwork – woodworking advice and skills
www.getwoodworking.com	Get Woodworking – woodworking advice and skills
www.hse.gov.uk	Health and Safety Executive

Unit 5: Developing Construction Decorating Skills

Unit reference number: Y/502/3688

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

This unit introduces learners to the hand tools, materials and personal protective equipment (PPE) used in decorating, and offers them opportunities to develop the skills needed to decorate surfaces.

Unit introduction

Learners will need to practise decorating techniques, and use these techniques to decorate a surface area in an acceptable time.

Emphasis is placed on the correct selection and safe use of the appropriate tools and equipment required to carry out decorating tasks.

Although learners will work independently when decorating, they will also function as effective members of a team by contributing to the maintenance of a clean and tidy workshop, and by working responsibly with others.

When preparing for work in the construction industry it is important that learners are able to seek and respond to guidance from colleagues and tutors during the learning process. This unit will help learners to develop an understanding of the personal qualities that are valued by employers.

Essential resources

Learners will require access to a wall of at least 3 m^2 to decorate, and to hand tools, materials and equipment of a nature and standard typical of a proper work environment.

The learning environment must be a safe place of work. Adequate workshop space must be provided for the safe storage and use of decorating materials, as well as adequate washing facilities, access to first aid facilities and storage for PPE.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know the hand tools used in basic decorating tasks	1.1	List and describe appropriate hand tools to be used in the decorating process	□ *Hand tools*: scrapers, filling knives, pasting table, paper-hanging brush, caulker, trimming knives, scissors or shears, rule, tape, plumb bob and line, spirit level, paste bucket, paste brush, pencil
2	Know the materials used in basic decorating tasks	2.1	List and describe appropriate materials to be used in the decorating process	□ *Materials*: lining wallpapers, non-patterned wallpapers, pastes, filler
3	Know the personal protective equipment (PPE) used in basic decorating tasks	3.1	List and describe appropriate personal protective equipment (PPE) to be used when decorating	□ *Personal protective equipment*: safety boots, bib and brace overalls, hand barrier cream, and other PPE as appropriate
4	Be able to apply safe working practices to produce a wallpapered wall	4.1	Select and use wallpaper paste safely to fix wallpaper to a wall of 3 m^2	□ *Safe working practices*: compliance with advice and guidance given; safe maintenance, use and storage of tools and equipment □ *Basic decorating processes*: wallpaper a wall of 3 m^2, cutting around a socket or switch
5	Be able to work responsibly with others	5.1	Maintain a clean and tidy work environment	□ *Behaviour*: e.g. responsibility, recognition of strengths and skills of self and other team members, cooperation, tidying 'as you go'
		5.2	Work responsibly in the workshop	

Learning outcomes		Assessment criteria		Unit amplification
6	Be able to seek and respond to guidance when working as part of a team	6.1	Follow instructions when working with others	□ *Attitudes*: e.g. enthusiasm; approachability; communication skills, e.g. listening, questioning, speaking clearly; following instructions
		6.2	Communicate appropriately with others	

Information for tutors

Delivery

This unit will give learners their first experience of the practical skills associated with decorating, together with any knowledge required to underpin such practical skills. Learners must be given opportunities to develop their knowledge and practical skills through supervised workshop activities, group teaching and demonstrations of the theories, equipment and techniques involved.

Learners will need to practise decorating a wall of at least 3 m^2. Tutors must demonstrate the necessary skills and techniques which learners will then use to produce the required assessment work.

The most important requirement of the unit is that learners are given opportunities to practise decorating techniques and procedures. To do this they must be able to recognise and select the tools, materials, equipment and PPE needed to work safely. Tutors will therefore need to demonstrate correct selection and use of the appropriate hand tools, materials, equipment and PPE. They must also demonstrate the practical painting skills required and monitor learners' performance as they practise their skills. They should correct poor practice and commend good practice. Tutors must encourage learners to ask for help and advice when necessary and to maintain a clean and tidy workplace. Tutors should encourage the reliable, positive and enthusiastic response to learning that employers value in prospective employees.

Learners and tutors are encouraged to view the unit as a 'taster', in that it gives the learner an opportunity to experience the type of work involved in decorating.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know the hand tools used in basic decorating tasks. Whole-class, tutor-led discussion about hand tools. Individual work on tool identification sheets. Requisitioning tools from tools store.
Know the materials used in basic decorating tasks. Site visit. Presentation from qualified working decorator. Trip to decorating centre.
Know the personal protective equipment (PPE) used in basic decorating tasks. Whole-class, tutor-led discussion about PPE, when and where it is necessary and how it works. Individual work on PPE identification sheets. Learners complete requisition sheets to obtain PPE from store. Learners provided with opportunities to select and wear the full range of PPE used in decorating.

Topic and suggested assignments/activities
Practise the processes used in basic decorating tasks. Practical demonstration of how to keep individual work areas tidy. The hand-to-eye motor skills associated with decorating are best taught by demonstration (group or individually) by the tutor, followed by repeated practice by the learner. The tried and tested method of developing a construction craft skill is for the learner to be shown how to do it by someone experienced, and for the learner to practise the skills, with continuous monitoring by the tutor.
Be able to apply safe working practices to produce a wallpapered wall. Assessment–three hours for learners to produce the paperwork required in the form of requisition forms/tool identification sheets. Practical assessment four hours.
Be able to work responsibly with others. Use of health and safety videos to demonstrate the dangers of a dirty and untidy workplace. Discussion of important role played by personnel behaving in a cooperative and responsible manner. Constant encouragement from tutors to 'tidy as you go' during practical painting workshop sessions.
Be able to seek and respond to guidance when working as part of a team. Tutors should encourage learners to ask questions about their work. This could be prompted by tutors asking learners to explain what they are doing, and why they are doing it, or to name a tool or an item of PPE as they work. Learners should be aware that their attitude, and the nature of their responses to any advice provided, will comprise part of the evidence required to achieve the unit. This requires no formal allocation of time and should occur during practice and assessment.

Assessment

The evidence can be provided by a single practical assignment covering all of the assessment criteria for the unit. Achievement of assessment criteria should be evidenced through vocationally related practical experiences with tasks specifically designed with the assessment criteria in mind. Many of the assessment criteria will need to be assessed directly by the tutor during practical activities. Where this approach is used, suitable evidence from guided activities would require observation records and/or witness statements plus photographs of the completed work.

For 1.1, learners must list and describe the appropriate hand tools to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders or tool identification sheets.

For 2.1, learners must list and describe the materials to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 3.1, learners must list and describe the items of PPE to be used in the practical task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 4.1, learners must be able to decorate a wall area of 3 m^2. It is anticipated that considerable guidance may need to be provided to learners at this level. There is no requirement for the work to comply with specific tolerances, or to demonstrate a professional standard. It is sufficient that the task has been completed. Photographs, observation records and witness statements could be provided as evidence. . Learners need to follow safe working practices.

For 5.1 and 5.2, learners should work as part of a team to create and maintain a clean and tidy work environment. They must also work responsibly when performing the decorating process. The evidence could take the form of a witness statement.

For 6.1 and 6.2, learners must be able to seek guidance from tutors and other experienced persons. The learner must follow instructions and communicate appropriately with other learners and with their tutors and/or instructors. The evidence could take the form of a witness statement.

Suggested resources

Books

Brett P – *A Building Craft Foundation*: *Levels 1 & 2* (3rd Revised Edition, Nelson Thornes, 2007) ISBN 9780748781843

Fulcher A – *Painting & Decorating*: *An Information Manual* (Blackwell Science, 1998) ISBN 9780632041596

Topliss S and Murray-Smith J – *BTEC Entry 3/Level 1 Construction Student Book* (Pearson, 2010) ISBN 9781846909207

Websites

www.diydata.com	DIY information
www.hse.gov.uk	Health and Safety Executive

Unit 6: Developing Plumbing Skills

Unit reference number: K/502/3694

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

This unit introduces learners to the hand tools, materials and personal protective equipment (PPE) used in plumbing. The unit offers learners opportunities to develop the skills needed to perform basic plumbing operations.

Unit introduction

Emphasis is placed on the correct selection and safe use of the appropriate tools and equipment required to carry out basic plumbing processes.

Learners will be given the opportunity to practise the plumbing techniques used to connect copper tubes and to install hot and cold taps and a tubular swivel trap to a sink. Learners will use these techniques to construct a pipe rig and a functioning sink.

Although learners will work independently when performing plumbing operations, they will also function as effective members of a team by contributing to the maintenance of a clean and tidy workshop, and by working responsibly with others.

When preparing for work in plumbing it is important that learners are able to seek and respond to guidance from colleagues and teachers during the learning process. This unit will help learners to develop an understanding of the personal qualities that are valued by employers.

Essential resources

Learners will require access to workbenches, hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work to carry out the mechanical plumbing tasks, with appropriate work areas and storage for tools, equipment and PPE.

Learners will also require access to a technical library with current textbooks on construction and the built environment and building services. Internet access will give learners an opportunity to develop skills in e-learning but the tutor will need to manage this carefully.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know the hand tools used in basic plumbing processes	1.1	List and describe appropriate hand tools to be used in basic plumbing processes	□ *Hand tools*: e.g. hacksaw, wheelcutter, file, wire wool, wrench, grips, spanner, bending spring, blowtorch
2	Know the materials and components used in basic plumbing processes	2.1	List and describe appropriate materials to be used in basic plumbing processes	□ *Materials*: copper pipe; PVC tubing, jointing paste, flux
		2.2	List and describe appropriate components to be used in basic plumbing processes	□ *Components*: capillary joints, compression joints, Tee junctions, 90° bends, hot and cold pillar taps, tubular swivel trap (P or S outlet)
3	Know the personal protective equipment (PPE) used in basic plumbing processes	3.1	List and describe appropriate PPE to be used in basic plumbing processes	□ *Personal protective equipment*: safety gloves; goggles; safety boots/shoes; other PPE as appropriate □ *Basic plumbing processes*: forming capillary joints, forming compression joints; bending copper pipe; connecting taps and traps
4	Be able to apply safe working practices to perform plumbing operations	4.1	Select and use hand tools safely to connect copper tubes	□ *Safe working practices*: compliance with advice and guidance given; safe maintenance, use and storage of tools and equipment
		4.2	Select and use hand tools safely to install a functioning sink	□ *Plumbing operations*: copper pipe rig with capillary joints, compression joints, Tee junction and 90° bends; connection of hot and cold water taps and tubular swivel trap to sink

Learning outcomes		Assessment criteria		Unit amplification
5	Be able to work responsibly with others	5.1	Maintain a clean and tidy work environment	□ *Behaviour*: e.g. responsibility, recognition of strengths and skills of self and other team members, cooperation, tidying 'as you go'
		5.2	Work responsibly in the workshop	
6	Be able to seek and respond to guidance when working as part of a team	6.1	Follow instructions when working with others	□ *Attitudes*: e.g. enthusiasm; approachability; communication skills, e.g. listening, questioning, speaking clearly; following instructions
		6.2	Communicate appropriately with others	

Information for tutors

Delivery

This unit will give learners their first experience of the practical skills associated with plumbing, together with the knowledge required to underpin such practical skills. Learners must be given opportunities to develop their knowledge and practical skills through supervised practical workshop activities, group teaching and demonstrations of the tools, equipment, materials, techniques and PPE involved.

Learners and tutors are encouraged to view the unit as a 'taster', in that it gives the learner an opportunity to experience the type of work involved in plumbing.

All building services craft tasks are problems to be solved (often in three dimensions) with available tools and materials and within a given timescale. The solutions to the problems are the conventional techniques, methods and procedures that building services craftspeople have developed to address the work they face on a daily basis. The learner will need to discuss the materials, components, tools, equipment, PPE and techniques to be used with a responsible and competent person and should respond positively to any advice given. They should then select the tools, equipment, materials, components and PPE appropriate for the task in hand, and use these to perform the specified plumbing tasks.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know the hand tools used in basic plumbing processes. Whole-class, tutor-led discussion about hand tools. Individual work on tool identification sheets. Requisitioning tools from tools store.
Know the materials and components used in basic plumbing processes. Site visit. Presentation from qualified working plumber. Trip to plumbers' merchant.
Know the personal protective equipment (PPE) used in basic plumbing processes. Whole-class, tutor-led discussion about PPE, when and where it is necessary and how it works. Individual work on PPE identification sheets. Learners complete requisition sheets to obtain PPE from store. Learners given opportunities to select and wear the full range of the PPE used in plumbing.
Practise the processes used to perform basic plumbing processes. Practical demonstration of how to keep work areas tidy. The hand-to-eye motor-skills associated with plumbing are best taught by the tutor demonstrating the skills required, followed by learners practising the skills. The tutor should monitor learners as they practise their skills and provide guidance, advice, correction or praise as appropriate.

Topic and suggested assignments/activities
Be able to apply safe working practices to perform plumbing operations. Assessment – two hours for learners to demonstrate knowledge of the hand tools, materials and PPE to be used in the practical assessment tasks. Evidence of selection or de-selection of each required. This can be achieved by completion of in-house requisition forms or similar. Four hours to demonstrate use of safe working practices to perform basic plumbing operations.
Be able to work responsibly with others. Use of health and safety videos/DVDs to demonstrate the dangers of a dirty and untidy workplace. Discussion of important role played by on-site personnel behaving in a cooperative and responsible manner. Constant encouragement from tutors to 'tidy as you go' during practical plumbing sessions.
Be able to seek and respond to guidance when working as part of a team. Tutors should encourage learners to ask questions about their work. This could be prompted by tutors asking learners to explain what they are doing, and why they are doing it, or to name a tool or an item of PPE as they work. Learners should be aware that their attitude, and the nature of their responses to any advice provided, will comprise part of the evidence required to achieve the unit. This requires no formal allocation of time and should occur during practice and assessment.

Assessment

Achievement of assessment criteria should be evidenced through contextualised, vocationally related practical experiences with tasks specifically designed with the assessment criteria in mind. Many of the assessment criteria will need to be assessed directly by the tutor during practical activities. Where this approach is used, suitable evidence from guided activities would require observation records and/or witness statements.

The use of two assessment instruments is suggested to allow full coverage of the learning outcomes. The first assessment instrument would comprise 1.1, 2.1 and 3.1 and should focus on the correct selection of the tools, materials and PPE required to complete the plumbing tasks and the reason why each is appropriate. The second assessment instrument would comprise 4.1, 5.1, 5.2, 6.1 and 6.2 and should focus on the completion of the practical plumbing tasks.

For 1.1, learners must list and describe commonly used hand tools. This will be evidenced most clearly by completion of appropriate requisition orders.

For 2.1 and 2.2, learners must list and describe the correct materials and components to be used to complete the plumbing tasks. This will be evidenced most clearly by completion of appropriate requisition orders.

For 3.1, learners must list and describe the appropriate PPE to be worn or used when performing plumbing tasks. This will be evidenced most clearly by completion of appropriate requisition orders.

For 4.1 and 4.2, learners must be able to use the selected tools, materials, components and PPE to perform plumbing tasks. Learners must be aware of the need for joints to be watertight and pipes to run horizontally or vertically, but there are no specified tolerances at this level. It is anticipated that considerable guidance will be given to learners. Photographs, observation records and witness statements could be provided as evidence. Learners need to follow safe working practices.

For 5.1 and 5.2, learners must maintain a clean and tidy workspace and work responsibly with others. The learners should be aware of any hazards associated with the practical tasks they perform but they need not produce risk assessments or suggest control measures. The evidence could take the form of a witness statement.

For 6.1 and 6.2, learners must demonstrate responsibility by seeking and listening to guidance and clarification from tutors as and when appropriate, and by acting upon the guidance received. They should communicate appropriately with both tutors and other learners at all times. The evidence could take the form of a witness statement.

Suggested resources

Books

Basic Plumbing: Pro Tips and Simple Steps (Meredith Corporation, 2002)

ISBN 0696213206

Greeno R and Hall F – *Building Services Handbook, 5th Edition* (Butterworth-Heinemann, 2009) ISBN 9781856176262

Topliss S and Murray-Smith J – *BTEC Entry 3/Level 1 Construction Student Book* (Pearson, 2010) ISBN 9781846909207

Treloar R D – *Plumbing*: *Heating and Gas Installations, 3rd Edition* (Wiley-Blackwell, 2006) ISBN 9781405139625

Websites

www.citb.org	Construction Industry Training Board
www.hse.gov.uk	Health and Safety Executive
www.householdersguide.com	Householders Guide online magazine for house maintenance and improvement
www.iosh.co.uk	Institution of Occupational Safety and Health
www.rospa.co.uk	Royal Society for the Prevention of Accidents
www.theplumber.com	Online plumbing magazine and forum
www.cibse.org	The Chartered Institution of Building Service Engineers

Unit 7: Developing Electrical Installation Skills

Unit reference number: Y/502/3691

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

This unit introduces learners to the hand tools, materials and personal protective equipment (PPE) used in electrical work, and offers learners opportunities to develop the skills used in basic electrical installation operations.

Unit introduction

Emphasis is placed on the correct selection and safe use of the appropriate tools and equipment required to carry out basic electrical installation procedures.

Learners will be given the opportunity to practise, under supervision, the electrical installation techniques used to wire a basic lighting rig and a basic ring main.

Although learners will work independently when performing electrical installation operations, they will also function as effective members of a team by contributing to the maintenance of a clean and tidy workshop, and by working responsibly with others.

When preparing for work in electrical installation it is important that learners are able to seek and respond to guidance from colleagues and tutors during the learning process. This unit will help learners to develop an understanding of the personal qualities that are valued by employers.

Essential resources

Learners will require access to workbenches, hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work to carry out electrical tasks, with appropriate work areas and storage for tools, equipment and PPE.

Learners will also require access to a technical library with current textbooks on construction and the built environment. Internet access will give learners an opportunity to develop skills in e-learning but this will need careful management by the tutor.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know the hand tools used in basic electrical installation processes	1.1	List and describe appropriate hand tools to be used in basic electrical installation processes	• *Hand tools*: e.g. electrician's screwdriver (parallel slotted and Phillips head), adjustable wrench, craft knife, pliers with insulated handles, wire strippers, junior hacksaw, digital multimeter, tape measure
2	Know the materials and components used in basic electrical installation processes	2.1	List and describe appropriate materials and components to be used in basic electrical installation processes	• *Materials*: PVC insulated flex • *Component*s: 13A fused sockets, light fittings, 60W light bulbs, 3A and 13A cartridge fuses
3	Know the personal protective equipment (PPE) used in basic electrical installation processes	3.1	List and describe appropriate PPE to be used in basic electrical installation processes	• *Personal protective equipment*: e.g. safety gloves, goggles, safety boots/shoes, other PPE as appropriate • *Basic electrical installation processes*: isolate power supply; mark out circuit; position and fix components; measure cables to length; strip cables and wires; fix wires to components; check connections for electrical and mechanical soundness; test system
4	Be able to apply safe working practices to perform electrical installation operations	4.1	Select and use hand tools safely to perform basic electrical installation operations	• *Safe working practices*: compliance with advice and guidance given; safe maintenance, use and storage of tools and equipment • *Electrical installation operations*: basic lighting rig with minimum of four light fittings in parallel; basic ring main with minimum four 13A fused and earthed sockets

Learning outcomes		Assessment criteria		Unit amplification
5	Be able to work responsibly with others	5.1	Maintain a clean and tidy work environment	□ *Behaviour*: e.g. responsibility, recognition of strengths and skills of self and other team members, cooperation, tidying 'as you go'
		5.2	Work responsibly in the workshop	
6	Be able to seek and respond to guidance when working as part of a team	6.1	Follow instructions when working with others	□ *Attitudes*: e.g. enthusiasm; approachability; communication skills, e.g. listening, questioning, speaking clearly; following instructions
		6.2	Communicate appropriately with others	

Information for tutors

Delivery

This unit will give learners their first experience of the practical skills associated with electrical installation, together with the knowledge required to underpin these practical skills. Learners must be given opportunities to develop their knowledge and practical skills through supervised practical workshop activities, group teaching and demonstrations of the tools, equipment, materials, techniques and PPE involved.

Learners and tutors are encouraged to view the unit as a 'taster', in that it gives the learner an opportunity to experience the type of work involved in electrical installation.

All building services craft tasks are problems to be solved (often in three dimensions) with available tools and materials and within a given timescale. The solutions to the problems are the conventional techniques, methods and procedures that building services craftspeople have developed to address the work they face on a daily basis. The learner will need to discuss the materials, components, tools, equipment, PPE and techniques to be used with a responsible and competent person and should respond positively to any advice given. They should then select the tools, equipment, materials, components and PPE appropriate for the task in hand, and use these to perform the specified electrical installation tasks.

Health and safety are of paramount importance in electrical work. Learners must understand that all the work they do must be carried out on systems that are isolated from any source of power, and they must be aware of the special problems caused by water and electricity. When systems are tested to see whether they work properly they must be tested on a low voltage supply, and the testing procedure must be supervised by the tutor.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know the hand tools used in basic electrical installation processes. Whole-class, tutor-led discussion about hand tools. Individual work on tool identification sheets. Requisition tools from store.
Know the materials and components used in basic electrical installation processes. Site visit. presentation from qualified working electrician. Trip to electrical supplies merchant.
Know the personal protective equipment (PPE) used in basic electrical installation processes. Whole-class, tutor-led discussion about PPE, when and where it is necessary and how it works. Individual work on PPE identification sheets. Learners complete requisition sheets to obtain PPE from store. Learners given opportunities to select and wear the full range of the PPE used in electrical installation.

Topic and suggested assignments/activities
Practise the processes used to perform basic electrical installation processes. Practical demonstration of how to keep individual work areas tidy. The skills associated with electrical installation are best taught by the tutor demonstrating the skills required, followed by the learners practising the skills. The tutor should monitor the learners as they practise their skills and provide guidance and advice, and correction or praise, as appropriate.
Be able to apply safe working practices to perform electrical installation operations. Assessment–two hours for learners to demonstrate knowledge of the hand tools, materials and PPE to be used in the practical assessment tasks. Evidence of selection or de-selection of each required. This can be achieved by completion of in-house requisition forms or similar. Four hours to demonstrate use of safe working practices to perform basic electrical installation operations.
Be able to work responsibly with others. Use of health and safety videos/DVDs to demonstrate the dangers of a dirty and untidy workplace. Discussion of important role played by on-site personnel behaving in a cooperative and responsible manner. Constant encouragement from tutors to 'tidy as you go' during practical electrical installation sessions.
Be able to seek and respond to guidance when working as part of a team. Tutors should encourage learners to ask questions about their work. This could be prompted by tutors asking learners to explain what they are doing, and why they are doing it, or to name a tool or an item of PPE as they work. Learners should be aware that their attitude, and the nature of their responses to any advice provided, will comprise part of the evidence required to achieve the unit. This requires no formal allocation of time and should occur during practice and assessment.

Assessment

Achievement of assessment criteria should be evidenced through contextualised, vocationally related practical experiences with tasks specifically designed with the assessment criteria in mind. Many of the assessment criteria will need to be assessed directly by the tutor during practical activities. Where this approach is used, suitable evidence from guided activities would require observation records and/or witness statements.

The use of two assessment instruments is suggested to allow full coverage of the outcomes. The first assessment instrument would comprise 1.1, 2.1 and 3.1 and should focus upon the correct selection of the tools, materials and PPE required to complete the electrical installation tasks and the reason why each is appropriate. The second assessment instrument would comprise 4.1, 5.1, 5.2, 6.1 and 6.2 and should focus upon the completion of the practical electrical installation tasks.

For 1.1, learners must list and describe commonly used hand tools. This will be evidenced most clearly by completion of appropriate requisition orders.

For 2.1, learners must list and describe the correct materials to be used to complete the electrical installation tasks. This will be evidenced most clearly by completion of appropriate requisition orders.

For 3.1, learners must list and describe the appropriate PPE to be worn or used when performing electrical installation tasks. This will be evidenced most clearly by completion of appropriate requisition orders.

For 4.1, learners must be able to use the selected tools, materials, components and PPE to perform electrical installation tasks to an acceptable standard. Learners must be aware of the need for all connections to be safe and correct and all light fittings and sockets to be securely mounted in a regular arrangement, but there are no specified tolerances at this level. It is anticipated that learners will be given considerable guidance. Photographs, observation records and witness statements could be provided as evidence. Learners need to follow safe working practices.

For 5.1 and 5.2, learners must maintain a clean and tidy workspace and work responsibly with others. Learners should be aware of any hazards associated with the practical tasks they perform but they need not produce risk assessments or suggest control measures. The evidence could take the form of a witness statement.

For 6.1 and 6.2, learners must demonstrate responsibility by seeking and listening to guidance and clarification from tutors as and when appropriate, and by acting upon the guidance received. They should communicate appropriately with both tutors and other learners at all times. The evidence could take the form of a witness statement.

Suggested resources

Books

Greeno R and Hall F – *Building Services Handbook* (5th Edition, Butterworth-Heinemann, 2009) ISBN 9781856176262

IEE Wiring Regulations 17th Edition (BS 7671, 2008) ISBN 9780863418440

Scaddan B – *Electrical Wiring*: *Domestic* (Newnes, 2003) ISBN 9780750687355

Topliss S and Murray-Smith J – *BTEC Entry 3/Level 1 Construction Student Book* (Pearson, 2010) ISBN 9781846909207

Websites

www.citb.co.uk	Construction Industry Training Board
www.electrical-online.com	Electrical Online
www.householdersguide.com	Householders Guide
www.hse.gov.uk	Health and Safety Executive
www.iosh.co.uk	Institution of Occupational Safety and Health
www.rospa.co.uk	Royal Society for the Prevention of Accidents
www.cibse.org	The Chartered Institution of Building Service Engineers

Unit 8: Developing Plastering Skills

Unit reference number: T/502/7473

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

This unit introduces learners to the hand tools, materials and personal protective equipment (PPE) used in plastering, and offers them opportunities to develop the skills needed to apply basic plastering finishes.

Unit introduction

Emphasis is placed on the correct selection and safe use of the appropriate tools and equipment required to carry out basic plastering processes.

Learners will be given the opportunity to practise the plastering techniques used to apply basic plastering finishes, and to use these techniques to apply 2-coat plaster to a $3m^2$ solid background in an acceptable time.

Although learners will work independently when applying the finishing coat and coving, they will also function as effective members of a team by contributing to the maintenance of a clean and tidy workshop, and by working responsibly with others.

When preparing for work in the construction industry it is important that learners are able to seek and respond to guidance from colleagues and tutors during the learning process. This unit will help learners to develop an understanding of the personal qualities that are valued by employers.

Essential resources

Learners will require access to hand tools and materials of a nature and standard typical of a proper work environment. The learning environment must be a safe place of work, with adequate space for spot boards and the safe application of 2-coat plastering models, adequate washing facilities for the removal of plaster from exposed skin, access to first-aid facilities and storage of PPE.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know the hand tools used in basic plastering processes	1.1	Describe appropriate hand tools to be used in basic plastering processes	□ *Hand tools*: e.g. laying trowel, hawk, hand brush, gauging trowel, comb scratcher, plastic/wooden float, claw hammer, craft knife
2	Know the materials used in basic plastering processes	2.1	Describe appropriate materials to be used in basic plastering processes	□ *Materials*: mortars, plasters and plasterboards
3	Know the personal protective equipment (PPE) used in plastering processes	3.1	Describe appropriate PPE to be used in basic plastering processes	□ *Personal protective equipment*: hard hat; eye protection; safety boots; high-visibility jacket; hand barrier cream □ *Basic plastering processes*: mix undercoat and apply to 3m^2 solid background using dot and screed method–apply finishing coat to previously keyed background
4	Be able to apply safe working practices to mix and apply 2-coat plaster to a 3m2 solid background	4.1	Select and use hand tools safely to apply 2-coat plaster to a 3m2 solid background in an acceptable time	□ *Safe working practices*: compliance with advice and guidance given; safe maintenance, use and storage of tools and equipment □ *2-coat plastering*: apply suitable undercoat plaster to a 3m^2 using dot and screed method and apply finishing coat to previously keyed undercoat
5	Be able to work responsibly with others	5.1	Maintain a clean and tidy work environment	□ *Behaviour*: e.g. responsibility, recognition of strengths and skills of self and other team members, cooperation, tidying 'as you go'
		5.2	Work responsibly in the workshop	

Learning outcomes		Assessment criteria		Unit amplification
6	Be able to seek and respond to guidance when working as part of a team	6.1	Follow instructions when working with others	□ *Attitudes*: e.g. enthusiasm; approachability; communication skills, e.g. listening, questioning, speaking clearly; following instructions
		6.2	Communicate appropriately with others	

Information for tutors

Delivery

This unit will give learners their first experience of the practical skills associated with the application of plaster coats, together with the knowledge required to underpin these practical skills. Learners must be allowed considerable opportunity to develop their knowledge and practical skills and this should be facilitated through extensive use of supervised practical workshop activities, allied to group teaching and demonstrations of the tools, equipment, materials, techniques and PPE involved.

Learners and tutors are encouraged to view the unit as a 'taster', in that it gives the learner an opportunity to experience the type of work involved in plastering.

All construction craft tasks are problems to be solved (often in three dimensions) with available tools and materials and within a given timescale. The solutions to the problems are the conventional techniques, methods and procedures that craftspeople have developed to address the work they face on a daily basis. Learners will need to discuss the materials, tools, equipment, PPE and techniques to be used with a responsible and competent person and should respond positively to any advice given. They should then select the tools, equipment, materials and PPE appropriate for the task in hand, and use these to produce the specified plastering task.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Learning outcomes
Know the hand tools used in basic plastering processes. Whole-class, tutor-led discussion about hand tools. Individual work on tool identification sheets. Requisition tools from store.
Know the materials used in basic plastering processes. Site visit. Presentation from qualified working plasterer. Trip to builders' merchant.
Know the personal protective equipment (PPE) used in basic plastering processes. Whole-class, tutor-led discussion about PPE, when and where it is necessary and how it works. Individual work on PPE identification sheets. Learners complete requisition sheets to obtain PPE from store. Learners given opportunities to select and wear the full range of PPE used in solid plastering.

Learning outcomes
Be able to apply safe working practices to mix and apply 2-coat plaster to a solid background. The hand-to-eye motor skills associated with plastering are best taught by the tutor demonstrating the skills required, followed by the learners practising the skills. The tutor should monitor learners as they practise their skills and provide guidance and advice, and correction or praise, as appropriate. Assessment–two hours for learners to demonstrate knowledge of the hand tools, materials and PPE to be used in the practical assessment task. Evidence of selection or de-selection of each required. This can be achieved by completion of in-house requisition forms or similar. Four hours to demonstrate use of safe working practices to apply the plaster to the $3m^2$ solid background.
Be able to work responsibly with others. Use of health and safety videos/DVDs to demonstrate the dangers of a dirty and untidy workplace. Discussion of important role played by on-site personnel behaving in a cooperative and responsible manner. Practical demonstration of how to keep work areas tidy. Constant encouragement from tutors to 'tidy as you go' during practical plastering sessions.
Be able to seek and respond to guidance when working as part of a team. Tutors should encourage learners to ask questions about their work. This could be prompted by tutors asking learners to explain what they are doing, and why they are doing it, or to name a tool or an item of PPE as they work. Learners should be aware that their attitude, and the nature of their responses to any advice provided, will comprise part of the evidence required to achieve the unit. This requires no formal allocation of time and should occur during practice and assessment.

Assessment

Achievement of assessment criteria should be evidenced through contextualised, vocationally related practical experiences with tasks specifically designed with the assessment criteria in mind. Many for the assessment criteria will need to be assessed directly by the tutor during practical activities. Where this approach is used, suitable evidence from guided activities would require observation records and/or witness statements.

Centres may use any assessment method that suits the needs of their learners, but it would be best to integrate several assessment criteria into a single piece of evidence. For example, one activity covering assessment criteria 1.1, 2.1 and 3.1 could focus on the correct selection of the tools, materials and PPE required to complete the plastering task, while a second activity covering 4.1, 5.1, 5.2, 6.1 and 6.2 could focus on the completion of the practical solid plastering task.

For 1.1, learners must list and describe commonly used hand tools. This will be evidenced most clearly by completion of appropriate requisition orders.

For 2.1, learners must list and describe the correct materials to be used to complete the plastering task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 3.1, learners must list and describe the appropriate PPE to be worn or used when completing the plastering task. This will be evidenced most clearly by completion of appropriate requisition orders.

For 4.1, learners must be able to select and use tools, materials and PPE to apply 2-coat plaster to a $3m^2$ solid background to the following specification: mix undercoat and apply to $3m^2$ solid background using dot and screed method. Apply finishing coat to previously keyed background when undercoat has had sufficient time to solidify (total time allowed for practical element – four hours). It is anticipated that considerable guidance will be given to learners. Photographs, observation records and witness statements could be provided as evidence.

For 5.1 and 5.2, learners must maintain a clean and tidy workspace and work responsibly with others. Learners should be aware of any hazards associated with the practical tasks they perform but they need not produce risk assessments or suggest control measures. The evidence could take the form of a witness statement.

For 6.1 and 6.2, learners must demonstrate responsibility by seeking and listening to guidance and clarification from tutors as and when appropriate, and by acting on the guidance received. They should communicate appropriately with tutors and other learners at all times. The evidence could take the form of a witness statement.

Suggested resources

Books

Brett P – *A Building Craft Foundation: Levels 1 & 2* (3rd Revised Edition, Nelson Thornes, 2007) ISBN 9780748781843

Plastering – NVQ and Technical Certificate Level 2 (Heinemann, 2007) ISBN 9780435449452

Websites

www.ciob.org.uk	Chartered Institute of Building
www.citb.co.uk	Construction Industry Training Board
www.hse.gov.uk	Health and Safety Executive
www.iosh.co.uk	Institution of Occupational Safety and Health
www.rospa.co.uk	Royal Society for the Prevention of Accidents
www.rtpi.org.uk	The Royal Town Planning Institute

Unit 9: Developing Skills in Making Engineering Components Using Hand Tools

Unit reference number: D/600/9138

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

This unit will enable learners to develop practical skills when working with hand tools and measuring equipment, so that they can apply them to the manufacture of a small range of basic engineering components. This unit provides some of the knowledge, understanding and skills for the Level 1 Performing Engineering Operations NOS Unit 4: Making Components Using Hand Tools and Fitting Techniques.

Unit introduction

In this unit learners will be introduced to the practical skills needed to carry out basic manufacturing tasks in an engineering workshop. They will explore the need to understand what they are going to carry out and prepare the work area correctly. Learners will then make basic components to given specifications using hand tools and measuring equipment that they have selected.

Learners will consider the importance of working safely in an engineering workshop and the need to check that tools and measuring equipment are in a safe and useable condition at all times. They will also appreciate the need to check that raw materials are of the correct type and size, and are in good condition. Cleaning down work areas on completion of activities, the return of tools and measuring equipment into safe storage, are considered in the context of good housekeeping and efficient working.

This unit helps learners to appreciate the importance of following given instructions when carrying out activities and to recognise what might go wrong when manufacturing a basic engineering product.

Essential resources

It would be extremely useful if learners had access to a range of tools and equipment commonly used in engineering. It may be possible to arrange a visit to an engineering company to extend learners awareness of the range of resources used in engineering.

A typical centre engineering workshop should be equipped with the basic requirements of this unit. Including marking out equipment, hand tools, measuring equipment and benches. All supporting auxiliary equipment should also be available together with appropriate safety equipment.

Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Be able to prepare a work area for hand cutting and shaping activities	1.1	Confirm with a supervisor what has to be done before hand cutting and shaping activities are carried out safely in a work area	□ *Before starting work*: understand the task, e.g. what needs to be carried out, order of operations, tools and equipment, quality checks; personal protection, e.g. eye protection, hair protection, footwear, use of barrier cream, removal of loose clothing and jewellery; regulations and safety procedures; maintenance of access, e.g. clear walkways, emergency exits; the need for good housekeeping, e.g. cleanliness of work area, removal of waste materials; what might go wrong, e.g. damaged materials, tool breakage, finished products not to standard; confirm proposed actions with a supervisor
		1.2	Prepare a work area so that hand cutting and shaping activities can be carried out	□ *Work area preparation*: preparation of area, e.g. tidying up the bench, returning unwanted materials to stores, fitting protection plates to vice jaws; obtain materials to be used; obtain tools and equipment, e.g. marking fluid, rule, scriber, scribing block, protractor, dividers, punch, square, vernier instrument, external micrometer, hacksaw, files, hammer, abrasive tape, vice jaws, centre drill, twist drill, die set, tap set; obtain correct personal protective equipment, e.g. eye protection, hair protection, overalls, safety footwear
		1.3	Check that raw materials are correct and tools are safe to use	□ *Check that raw materials are correct and tools are safe to use*: check materials to ensure right type and size; visually check materials for obvious signs of damage or contamination, e.g. flaws, dirt, rust, excessive burrs; check tools and equipment to ensure that they are in a safe and usable condition, e.g. condition of saw blades, files, file handles, centre drill, twist drills, hand dies, hand taps; check holding and securing arrangements, e.g. vice, clamps, fixtures, chucks, taper, sleeves

Learning outcomes		Assessment criteria		Unit amplification
2	Be able to produce components using hand tools safely	2.1	Mark out components for required operations	□ *Marking out*: preparing materials for marking out, e.g. deburring, producing suitable datum faces/edges, applying a suitable marking medium; marking out workpieces, e.g. datums, centre lines, cutting guide lines, hole positions, profiles; marking out tools, e.g. engineer's rule, scriber, centre punch, hammer, dividers, odd-leg callipers, engineer's square
		2.2	Use appropriate hand tools to safely make components	□ *Making components*: components which combine different fitting operations, e.g. drill drift, drill point angle gauge, drill stand, jaw plates for toolmakers' clamps, other suitable components; simple profiles, e.g. radii, corners, bevels, angles, square edges; holding devices, e.g. bench vice, clamps, fixture; hand tools, e.g. hacksaw, hand drill, drill bits, hammer, taps, dies, files, abrasive cloth
		2.3	Check that components meet the standard required	□ *Component checks*: appearance, e.g. cuts, burrs, sharp edges; tolerance, e.g. linear +/- 0.25 mm, flat and square +/-0.1mm/25 mm, angle +/- 1 degree, surface finish 1.6 µm; measuring equipment, e.g. micrometer, vernier, rule, square, protractor, gauges
		2.4	Clean down work areas and return tools to storage	□ *Cleaning down and putting away*: collection of swarf, e.g. brush, collection pan, recycling container; tools and equipment, e.g. cleaning cloth, tool case, toolbox; return to stores, e.g. tools, equipment, surplus materials; inspection of work area, e.g. visual, sign off

Information for tutors

Delivery

This unit is essentially practical and learners would benefit from practising their skills before being assessed. Learners should be encouraged to think about the processes needed and actions to be taken to prepare their workplace and then make basic engineering components. Learners should have opportunities to talk about what they are going to do and how they propose to overcome any problems that may occur while they are manufacturing components. It is important that they understand where hand tools can be used and the safety aspects of using these tools.

A small number of components should be made which learners can keep and perhaps use later in their engineering studies or at work. At this level learners do not need to produce components that are complicated.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Confirm with a supervisor what has to be done before hand cutting and shaping activities are carried out safely in a work area. Tutor-led unit introduction covering content, method of working and assessment. Tutor-led overview of the hand tool skills learners will develop. Whole class, tutor-led discussion about how engineers plan the manufacture of engineering products. Using one or two basic components as exemplars tutor presents drawing(s)/sketch(es), list of tools, materials, sequence of operations, quality checks. Tutor-led discussion about PPE, where and when it is necessary and how it works. Tutor-led discussion about the need to confirm proposed activities with a supervisor. Small-group activity to plan the production of a single given component.
Prepare a work area so that hand cutting and shaping activities can be carried out. Whole-class, tutor-led discussion about the need to prepare work areas – present exemplars of poor and good preparation. Paired activity to identify hazards/bad practices in workshops – presented as images with a checklist to complete.
Check that raw materials are correct and tools safe to use. Whole-class, tutor-led discussion about why raw materials and tools should be checked before being used. Tutor presents a small range of exemplars that show the consequences of working with materials and tools which are not fit for purpose. Small-group activity to identify, from images or actual hardware, raw materials that are damaged or contaminated and hand tools which are unsafe and should not be used.

Topic and suggested assignments/activities
Mark out components for required operations. Tutor-led demonstration of marking out followed by individual activity.
Use appropriate hand tools to make components safely. Tutor demonstration of how to use the hand tools learners will be working with. Individual activities to develop skills when using hand tools – cutting, filing, drilling and thread cutting exercises.
Check that components meet the required standard. Whole-class, tutor-led discussion about why components should be checked against the specification. Paired activity to check the dimensions of a basic component against its specification.
Clean down work areas and return tools to storage. Tutor-led discussion about the need for 'good housekeeping' in engineering workshops.
Assessment activity – prepare a work area and manufacture basic components using hand tools. Individual activity to manufacture components using processes, tools and procedures which address the unit content and the seven assessment criteria.
Seek and respond to guidance from their tutor. Tutors should encourage learners to have a dialogue with them. This could be prompted by the tutor asking learners to explain what they are doing, why they are doing it and how they are able to work safely. This does not require a formal allocation of time and should occur during delivery and assessment of the unit.

Assessment

The centre will devise and mark the assessment for this unit.

Learners must meet all assessment criteria to pass the unit.

Learners will benefit from access to a range of assessment opportunities. Examples might include observed practice, recorded explanations, checklists and annotated photographic records. Entries within a logbook and a finished product inspection record, both validated by the tutor, are also appropriate methods for recording achievement. Competence when carrying out practical activities should be evidenced through witness testimonies or observation records signed by the tutor.

Suggested resources

Books

Boyce et al – *Engineering Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435756253

Chapman et al – *GNVQ Intermediate Engineering* (Longman, 2000) ISBN 9780582381384

Darbyshire et al – *GNVQ Intermediate Engineering* (Nelson Thornes, 1997) ISBN 9780748729364

Timings R L – *Basic Manufacturing* (Newnes, 1998) ISBN 9780750659901

Timings R L – *Manufacturing Technology Volume One* (Longman, 1998) ISBN 9780582356931

Tooley M – *Engineering GNVQ Intermediate* (Butterworth-Heinemann, 2006) ISBN 9780750625975

Waters F – *Fundamentals of Manufacturing for Engineers* (UCL Press, 1996) ISBN 9781857283389

Tutor resource disks

Boyce et al – *Engineering Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435756260

Website

www.hse.gov.uk	Health and Safety Executive

Unit 10: Developing Skills in Using a Bench/Pedestal Drilling Machine

Unit reference number: H/600/9139

Level: 1

Credit value: 4

Guided learning hours: 40

Unit aim

This unit will enable learners to develop the skills needed to produce holes with positional and dimensional accuracy in basic engineering components, using marking out equipment and a bench/pedestal drilling machine. This unit provides some of the knowledge, understanding and skills for the Level 1 Performing Engineering Operations NOS Unit 4: Making Components using Hand Tools and Fitting Techniques.

Unit introduction

In this unit learners will be introduced to the practical skills needed to carry out drilling operations using a bench or pedestal drilling machine. They will explore the need to understand what they are going to carry out and prepare the machine, tools and holding devices correctly. Learners will then drill holes to given specifications and check for size and positional accuracy using rules, calipers and other measuring equipment that they have selected.

Learners will consider the importance of working safely with powered machinery and the need to check that guards, isolation switches, tools and equipment are in a safe and useable condition at all times. They will also appreciate that before they start to drill a component they must check that it is suitable for holding down and is made from the correct material.

This unit helps learners to appreciate the importance of following given instructions when carrying out activities and recognise what might go wrong when drilling holes in basic engineering components.

Essential resources

It would be extremely useful if learners had access to a range of equipment commonly used in engineering. It may be possible to arrange a visit to an engineering company to extend learner awareness of the range of resources used in engineering.

A typical centre engineering workshop should be equipped with the basic requirements of this unit including marking out equipment, hand tools, measuring equipment and bench/pillar drilling machines. All supporting auxiliary equipment should also be available together with appropriate safety equipment.

Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Be able to prepare a work area for producing components using a bench/pedestal drilling machine	1.1	Confirm with a supervisor what has to be done before drilling activities are carried out safely in a work area	□ *Before starting work*: understand the task, e.g. what needs to be carried out, order of operations, tools and equipment, quality checks; personal protection, e.g. eye protection, hair protection, removal of loose clothing and jewellery, footwear, use of barrier cream; regulations and safety procedures; maintenance of access, e.g. clear walkways, emergency exits; the need for good housekeeping, e.g. cleanliness of work area, removal of waste materials; what might go wrong, e.g. damaged materials, tool breakage, finished holes not to standard; confirm proposed actions with a supervisor
		1.2	Prepare a work area ready for drilling activities to be carried out	□ *Work area preparation*: single spindle bench/pedestal drilling machine; obtain components to be drilled; select tools and equipment, e.g. marking out fluid, rule, square, centre punch, hammer, depth and plug gauges, chuck, taper sleeve, drill bits, reamers, lubricant; obtain correct personal protective equipment, e.g. eye protection, hair protection, overalls, safety footwear; identify procedure for machine start/stop in both normal and emergency situations
		1.3	Check that machinery and tools are safe to use	□ *Check that machinery and tools are safe to use*: condition of machine, e.g. guards, isolator switch, start/stop switch, emergency stop switch, limit switch, cutting lubricants, drill chuck, spindle taper sleeves, table; condition of cutting tools, e.g. sharpness, tip angle, shank straightness, surface condition of shank; condition of holding devices, e.g. hand vice, machine vice, angle brackets, clamps

Learning outcomes		Assessment criteria		Unit amplification
2	Be able to safely carry out drilling activities using a bench/pedestal drilling machine.	2.1	Set up a bench/pedestal drilling machine which can be used to carry out drilling activities	□ *Set up a bench/pedestal drilling machine*: machine isolation before mounting cutting tools or work handling devices; adjustment of table height and position; mounting work piece, e.g. hand vice, machine vice, angle brackets, clamping to machine table; mounting and securing of tools, e.g. chuck, taper sleeve, centre drill, twist drill, pilot drill, reamer, counterbore tool, countersinking tool; drill shanks, e.g. straight, morse taper; machine settings and adjustments, e.g. spindle speed, feed rate, guards, safety devices; cutting lubricants, e.g. fluids, compounds
		2.2	Use a bench/pedestal drilling machine to safely carry out drilling activities to a required specification	□ *Use a bench/pedestal drilling machine*: techniques of positioning drills to marking out, e.g. use of centre drills, boxed holes, taking trial cuts, checking accuracy; drilling techniques, e.g. through holes, holes with a given depth, flat bottomed holes, counterbores, countersinks, reamed holes, correcting holes that are off-centre; drill feeding, e.g. manual, power; applying cutting lubricants, e.g. pressure fed, by brush; good housekeeping, e.g. machine isolation, cleaning down, return of tools and equipment into safe storage
		2.3	Check that drilled holes are to the required standard.	□ *Use a bench/pedestal drilling machine*: techniques of positioning drills to marking out, e.g. use of centre drills, boxed holes, taking trial cuts, checking accuracy; drilling techniques, e.g. through holes, holes with a given depth, flat bottomed holes, counterbores, countersinks, reamed holes, correcting holes which are off-centre; drill feeding, e.g. manual, power; applying cutting lubricants, e.g. pressure fed, by brush; good housekeeping, e.g. machine isolation, cleaning down, return of tools and equipment into safe storage

Information for tutors

Delivery

This unit is essentially practical and learners will benefit from practising their skills before being assessed. Learners should think about the drilling operations to be carried out and actions to be taken to prepare their workplace. Learners should have opportunities to talk about what they are going to do and how they propose to overcome any problems when using a drilling machine. It is important that learners understand the hazards involved when working with powered machinery and the measures that must be taken in order to minimise risk. They should also be fully aware of what to do in the case of an emergency.

At this level it is not appropriate for learners to work with complicated components.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Confirm with a supervisor what has to be done before drilling activities are carried out safely in a work area. Tutor-led unit introduction covering content, method of working and assessment. Tutor-led overview of the drilling skills learners will develop. Whole-class, tutor-led discussion about the steps involved when using a bench/pedestal drill to make holes in materials. Tutor-led discussion about PPE, where and when it is necessary and how it works. Tutor-led discussion about the need to confirm proposed activities with a supervisor. Small-group activity to plan how to drill different types of hole.
Prepare a work area ready for drilling activities to be carried out. Whole-class, tutor-led discussion about the need to prepare work areas – present exemplars of good and bad preparation. Paired activity to identify hazards/bad practices when working with drilling machines – presented as images with a checklist to complete. Tutor-led discussion about the emergency procedures that apply to rotating machinery.
Check that machinery and tools are safe to use. Whole-class, tutor-led discussion about why machinery and tools should be checked before being used. Tutor presents a small range of examples that show the consequences of working with machinery and tools that are not fit for purpose. Small-group activity to identify the risks involved when drilling holes and the measures which should be taken to reduce these risks.

Topic and suggested assignments/activities
Set up a bench/pedestal drilling machine which can be used to carry out drilling activities. Tutor-led demonstration of setting up and using a bench/pedestal drilling machine. Paired activity setting up a bench/pedestal drilling machine – selecting tools and holding device, selecting and adjusting spindle speed, adjusting table height, fitting chucks and tapers.
Use a bench/pedestal drilling machine to carry out drilling activities safely to a required specification. Paired and individual activities to develop skills when working with a bench/pedestal drilling machine – positioning drill bits, trial cuts, checking accuracy, different types of hole, application of lubricants. Paired activity – machine isolation and clean down.
Check that drilled holes are to the required standard. Whole-class, tutor-led discussion about why machined features should be checked against the specification. Paired activity to check the positional accuracy and diameters of drilled/reamed holes.
Assessment activity – prepare a work area and carry out drilling activities using a bench/pedestal drilling machine. Individual activity to drill holes and carry out inspection checks which address the unit content and six assessment criteria.
Seek and respond to guidance from the tutor. Tutors should encourage learners to have a dialogue with them. This could be prompted by the tutor asking learners to explain what they are doing, why they are doing it and how they are able to work safely. This does not require a formal allocation of time and should occur during delivery and assessment of the unit.

Assessment

Learners will benefit from access to a range of assessment opportunities. Examples might include observed practice, recorded explanations, checklists and annotated photographic records. Entries within a logbook and an inspection record for each drilling operation, validated by the tutor, are also appropriate methods for recording achievement. Competence when carrying out practical activities should be evidenced through witness testimonies or observation records signed by the tutor.

Suggested resources

Books

Boyce et al – *Engineering Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435756253

Chapman et al – *GNVQ Intermediate Engineering* (Longman, 2000) ISBN 9780582381384

Darbyshire et al – *GNVQ Intermediate Engineering* (Nelson Thornes, 1997) ISBN 9780748729364

Timings R L – *Basic Manufacturing* (Newnes, 1998) ISBN 9780750659901

Timings R L – *Manufacturing Technology Volume One* (Longman, 1998) ISBN 9780582356931

Tooley M – *Engineering GNVQ Intermediate* (Butterworth-Heinemann, 1996) ISBN 9780750625975

Waters F – *Fundamentals of Manufacturing for Engineers* (UCL Press, 1996) ISBN 9781857283389

Tutor resource disks

Boyce et al – *Engineering Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435756260

Websites

www.hse.gov.uk	Health and Safety Executive

Unit 11: Developing Skills in Assembling Mechanical Components

Unit reference number: H/600/9142

Level: 1

Credit value: 3

Guided learning hours: 30

Unit aim

This unit will enable learners to develop manual skills when working with basic assembly tools, so that they can apply them to assembling a product from a small number of mechanical components. This unit provides some of the knowledge, understanding and skills for the Level 1 Performing Engineering Operations NOS Unit 5: Assembling Mechanical Components.

Unit introduction

In this unit learners will be introduced to the practical skills needed to assemble components in an engineering workshop. They will explore why they need to understand what they are going to carry out and prepare the work area correctly. Using basic hand tools and measuring equipment, which they have selected, learners will assemble components into finished products that meet given specifications.

Learners will consider the importance of working safely in an engineering workshop and the need to check that tools and equipment are in a safe and useable condition at all times. They will also understand the requirement to check that components are the correct type and in good condition before starting work. Selection of the correct fastening devices and special tools, such as a torque wrench, is also covered in this unit. As assembly processes may involve the use of cleaning substances and lubricants, learners will need guidance on the precautions to take when using them.

Cleaning down work areas on completion of activities and the return of tools and equipment into safe storage are considered in the context of good housekeeping and efficient working.

This unit will help learners to appreciate the importance of following given instructions carrying out activities and to recognise the problems which may occur when assembling mechanical components.

Essential resources

It would be extremely useful if learners had access to a range of equipment commonly used in engineering. It may be possible to arrange a visit to an engineering company to extend learner awareness of the range of resources used in engineering.

A typical centre engineering workshop should be equipped with the basic requirements of this unit including a range of mechanical fastening devices, tools and equipment for assembly operations. All supporting auxiliary equipment should also be available together with appropriate safety equipment.

Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Be able to prepare a work area in readiness for assembly operations	1.1	Confirm with a supervisor what has to be done before assembly operations are carried out safely	□ *Before starting work*: understand the task, e.g. what needs to be carried out, order of operations, tools and equipment, quality checks; personal protection, e.g. eye protection, hair protection, footwear, use of barrier cream, removal of loose clothing and jewellery; regulations and safety procedures; maintenance of access, e.g. clear walkways, emergency exits; understand the need for good housekeeping, e.g. cleanliness of work area, removal of waste materials; understand what might go wrong, e.g. damaged components, shortage of fastening devices, finished assembly not to standard; confirm proposed actions with a supervisor
		1.2	Prepare a work area ready for the assembly of components	□ *Work area preparation*: bench preparation, e.g. tidy up, plan layout of components; consumables, e.g. oil, grease, sealant, gasket; services, e.g. electrical, compressed air; obtain components to be assembled; obtain instructional materials, e.g. assembly drawing, parts list, assembly instructions; obtain appropriate fastening devices; select tools and equipment; obtain correct personal protective equipment, e.g. eye protection, hair protection, overalls, safety footwear
		1.3	Check components are correct and that tools and equipment are safe to use	□ *Check that components are correct and equipment safe to use*: check components, e.g. correct quantity, screw threads undamaged, free from contamination, defects, burrs, sharp edges; condition of tools, e.g. screwdrivers, pliers, feeler gauges, mallets, spanners, keys, alignment devices, punches, measuring equipment, lifting equipment

Learning outcomes		Assessment criteria		Unit amplification
2	Be able to carry out assembly operations using mechanical components	2.1	Use appropriate tools to assemble components	□ *Assembling components*: assembly procedures, e.g. positioning, alignment, shim adjustment, securing, torque tightening; fastening/securing devices, e.g. screws, nuts, bolts, machine screws, washers, rivets, tab washers, wire locks, locking nuts, circlips, pins, dowels, keys, rivets; minimum of six components, e.g. pulley mechanism, simple crank mechanism, simple gearbox assembly, bearings, seals, shafts, chains, sprockets, cams and followers, springs, belts, gaskets
		2.2	Check that the finished assembly conforms to specified limits of accuracy	□ *Check assembly meets required standard*: checking for operation, e.g. correct movement of sliding and rotating parts, correct torque applied to critical fastenings, end float of shafts, operating clearances on valves or actuators; visual inspection, e.g. correctness of fit at critical stages during assembly, correct orientation of cover plates
		2.3	Clean down work area and return tools and equipment to storage.	□ *Cleaning down and putting away*: tools and equipment, e.g. cleaning cloth, tool case, toolbox; return to storage, e.g. tools, equipment, surplus fastenings; close down services, e.g. electrical, compressed air, e.g. inspection of work area, e.g. visual, sign off

Information for tutors

Delivery

This unit is essentially practical and learners would benefit from practising their skills before being assessed. Learners should think about the processes needed and actions to be taken to prepare their workplace and then assemble components into a basic assembly. Learners should have opportunities to talk about what they are going to do and how they propose to overcome any problems that may occur while they are assembling components. It is important that they understand the safety aspects of using hand and powered assembly tools and the measures that must be taken in order to minimise risk. They should also be fully aware of what to do in the case of an emergency.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Confirm with a supervisor what has to be done before assembly operations are carried out safely. Tutor-led unit introduction covering content, method of working and assessment. Tutor-led overview of the hand assembly skills learners will develop. Whole-class, tutor-led discussion about how engineers plan the assembly of engineering products. Using one or two simple products as examples – tutor presents drawing(s)/sketch(es), list of tools, components, fastening, sequence of operations, quality checks. Tutor-led discussion about PPE, where and when it is necessary and how it works. Tutor-led discussion about the need to confirm proposed activities with a supervisor. Small-group activity to plan the assembly of a single given product.
Prepare a work area ready for the assembly of components. Whole-class, tutor-led discussion about the need to prepare work areas – present examples of poor and good preparation. Paired activity to identify hazards/bad practices in workshops – presented as images with a checklist to complete.
Check components are correct and that tools and equipment are safe to use. Whole-class, tutor-led discussion about why components, tools and equipment should be checked before being used. Tutor presents an example which shows the consequences of working with assembly tools that are not fit for purpose. Small-group activity to identify, from images, problems which can occur when assembling components. Tutor-led discussion about special precautions to take when working with lubricants, cleaning substances, hydraulic oil and compressed air.

Topic and suggested assignments/activities
Use appropriate tools to assemble components. Tutor demonstration of assembly techniques followed by assembly of a product. Individual activities to develop basic assembly skills using hand tools. Individual and paired activities to assemble products from given components referring to parts schedules, drawings and manuals.
Check that the finished assembly conforms to specified limits of accuracy. Whole-class, tutor-led discussion about why assembled components should be checked against the specification. Individual activity to check an assembled product against its specification – dimensional and operational features.
Clean down work area and return tools and equipment to storage. Tutor-led discussion about the need for 'good housekeeping' in engineering workshops and the correct storage of tools and equipment.
Assessment activity – prepare a work area and assemble components using hand tools. Individual activity to assemble components using tools and procedures that address the unit content and six assessment criteria.
Seek and respond to guidance from the tutor. Tutors should encourage learners to have a dialogue with them. This could be prompted by the tutor asking learners to explain what they are doing, why they are doing it and how they are able to work safely. This does not require a formal allocation of time and should occur during delivery and assessment of the unit.

Assessment

The centre will devise and mark the assessment for this unit.

Learners must meet all assessment criteria to pass the unit.

Learners will benefit from access to range of assessment opportunities. Examples might include observed practice, recorded explanations, checklists and annotated photographic records. Entries within a logbook and a finished assembly inspection report, both validated by the tutor, are also appropriate methods for recording achievement. Competence in practical activities should be evidenced through witness testimonies or observation records signed by the tutor.

Suggested resources

Books

Boyce et al – *Engineering Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435756253

Salmon D – *NVQ Engineering Level 2 Mandatory Units* (Longman, 1997) ISBN 9780582302983

Salmon D – *NVQ Engineering Level 2 Mechanical Units* (Longman, 2002) ISBN 9780750654067

Tutor resource disks

Boyce et al – *Engineering Level 1 Foundation Diploma* (Pearson, 2008)
ISBN 9780435756260

Website

www.hse.gov.uk Health and Safety Executive

Unit 12: Developing Skills in Electronic Assembly

Unit reference number: H/601/0095

Level: 1

Credit value: 3

Guided learning hours: 30

Unit aim

This unit introduces learners to the skills needed to assemble electronic components into simple circuits. It will give them the opportunity to think about the precautions and safety requirements needed when using electronic assembly activities. This unit provides some of the knowledge, understanding and skills for the Level 1 Performing Engineering Operations NOS Unit 23: Assembling Electronic Circuits.

Unit introduction

In this unit learners will explore the activities involved in assembling electronic components and making circuits. When preparing for electronic assembly activities they will learn about the necessary safety requirements, components, tools and equipment, and use soldering techniques.

Learners will be involved in the practical activities associated with assembling a simple electronic circuit. They will be able to demonstrate that they can prepare for the activity and also take the necessary precautions to ensure the assembly is carried out safely and correctly. They will have an opportunity to check a range of components, tools and equipment before the circuit is assembled. Having carried out an electronic assembly activity learners will show that they can leave the work area in a safe and tidy condition and that they have produced an assembly to a reasonable standard.

Essential resources

A typical centre engineering workshop should be equipped with the basic requirements of this unit including a range of electronic assembly equipment and components, tools and equipment for assembly operations. All supporting auxiliary equipment should also be available together with appropriate safety equipment.

Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Be able to prepare for and carry out an electronic assembly activity	1.1	Take precautions ready to carry out an electronic assembly activity	□ *Preparation activities*: precautions, e.g. tidy bench and floor area, planning assembly area layout, checking availability of services such as electrical or air supplies, putting tools and equipment into safe storage after use; preparation, e.g. correct components and how they fit into the assembly, how to use tools and equipment; checking, e.g. bent pins, broken leads, damaged housing, other damage to components, quantity of components
		1.2	Prepare components, tools and equipment ready for an electronic assembly activity	□ *Electronic assemblies*: electronic circuits, e.g. audio amplifiers, signal converters, signal generators, counter/timers, sensor/actuator circuit, digital circuit, signal processing circuit, alarm and protection circuit; connect peripheral components and wiring; assemblies to contain component board including a range of components, e.g. resistor (such as fixed, variable), capacitor (such as fixed, variable, electrolytic), diodes, semiconductor device, integrated circuit IC, connectors, insulators, cables, clips and straps
		1.3	Check components before they are used in an electronic assembly activity	

Learning outcomes		Assessment criteria		Unit amplification
2	Be able to assemble electronic components correctly and safely.	2.1	List the safety aspects for an electronic assembly activity	□ *Correct assembly*: using pliers, wire strippers, side or end cutters, special tools for inserting components; soldering components and the use of heat sinks/shunts; using anti-static procedures; removing correct length of insulation; avoiding damage to conductors; tinning conductor ends when appropriate; terminating cables to connectors; securing cables using clips and straps; making visual checks, e.g. positioning of components and wiring, damaged/burnt insulation, excessive solder or solder spikes/bridges which may cause short circuits to occur; checking circuit function using simple test equipment and/or specific test tools
		2.2	Produce an electronic assembly correctly and safely.	□ *Safety*: personal protection, e.g. wearing protective clothing, removal of loose clothing and jewellery, use of barrier cream, eye protection, safety footwear; preparation of assembly area; fume extraction; good housekeeping, e.g. cleanliness of work area, removal of waste materials, storage of materials and tools; maintenance of access, e.g. clear walkways, emergency exits; anti-static precautions; heat damage, e.g. use of heat sink; handling circuit boards to avoid contamination; inspecting soldering equipment for damaged/burnt insulation

Information for tutors

Delivery

This unit is about preparing for and carrying out an electronic assembly activity correctly and safely. It therefore lends itself to be delivered in a holistic way and by learners practising in the workshop and reflecting on the experiences gained relating to safety and the correct use of components, tools and equipment when carrying out activities.

A key part of delivery is likely to be demonstration and practice. Although some awareness raising may be needed in a safe environment such as a classroom. Although both learning outcomes are practical in nature, some underpinning knowledge will need to be established before learners are allowed access to the practical activities. Checking of this may be best achieved through question and answer sessions. Other activities such as 'card games' or 'word searches' may also be appropriate and helpful.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Be able to prepare for and carry out an electronic assembly activity Whole-class, tutor-led discussions about the importance of good preparation. Whole-class, tutor-led demonstration of good practice and preparation in the electronics workshop. Individual activity: learners visit a poorly laid out assembly area and establish all points of bad practice, set this up as a competition. Individual activity: learners devise and play each other's crossword games about the precautions to take and the checking of components. Assessment of this part of the unit is likely to be achieved within activities to meet the requirement of the second learning.
Be able to assemble electronic components correctly and safely Individual cloze activity (completing handouts with gaps) about safety aspects etc. Whole-class, tutor-led demonstration of electronic assembly activities. Individual learners activity: practise producing electronic assemblies, with formative checks until learners show a reasonable level of competence and safety. Individual summative assessment activity. This will take a large proportion of the time for this part of the unit.

Assessment

The centre will devise and mark the assessment for this unit.

Learners must meet all assessment criteria to pass the unit.

Due to the nature of the assessment requirements of this unit it is likely that summative assessment will take a large proportion of the 30 hours assigned to the unit. Learners should only be assessed once the tutor is comfortable with their level of competence developed during the formative stages of the practical activities.

A single assignment could be developed to address all the assessment criteria. It should be based on the practical activity of assembling electronic components correctly and safely. This does mean that most of the evidence will be in the form of witness statements/observation records supported by annotated photographs of what learners carried out, and work area layout, along with component listings etc, 2.1 will, however, require either a written list of safety aspects produced by learners or a list written by the tutor and extracted from the learner, and authenticated as such.

The circuit given to each learner must include a range of opportunities for them to take appropriate precautions before they prepare for and start the assembly activity in a correct and safe manner. The electronic assembly must include a range of components to be assembled from those listed in the unit content. Whilst the circuit does not need to contain all those listed, it should have a simple function. This would add relevance to this activity. When designing the circuit to be assembled, and components to be used, care must be taken, to ensure that learners have opportunities to demonstrate correct assembly methods as defined in the unit content. It would also be sensible to include some components that are not 'fit for purpose' for example have bent pins, so that learners can demonstrate they have checked components before assembling and requested an exchange. The opportunity to check the assembly for correct function is also important and part of the requirements of 2.2.

Suggested resources

Books

Bishop O – *Electronics: A First Course* (Newnes, 2006) ISBN 0750669608

Bishop O – *Electronics: Circuits and Systems* (Newnes, 2003) ISBN 0750658452

Duncan T – *Success in Electronics* (Hodder Murray, 1997) ISBN 0719572053

Sladdin and Johnson – *Elementary Electronics: Basic Electronics* (Hodder & Arnold, 1990) ISBN 978-0340513736

Tooley M – Electronic Circuits: Fundamentals and Applications (Newnes, 2006) ISBN 0750669233

Journals

Engineering Magazine ISSN 0013-7782

Engineering and Technology Magazine ISSN 1750-9367

Websites

uk.rs-online.com	Electrocomponents plc
www.maplin.co.uk	Maplin
www.rapidonline.com	Rapid

Unit 13: Developing Skills in Wiring Electrical Circuits and Components

Unit reference number: L/601/0124

Level: 1

Credit value: 3

Guided learning hours: 30

Unit aim

This unit introduces learners to the skills required to carry out the wiring and terminating of electrical circuits and components. It will give them the opportunity to think about the necessary precautions and safety requirements when preparing for wiring activities by learning about components, cables, tools and equipment when using appropriate terminations. This unit provides some of the knowledge, understanding and skills for the Level 1 Performing Engineering Operations NOS Unit 21: Wiring Electrical Equipment and Circuits.

Unit introduction

In this unit learners will explore the activities involved in wiring simple electrical circuits and components. When preparing for electrical wiring activities they will learn about the necessary safety requirements, components, cables, tools, equipment, and any documentation that may be required.

Learners will be involved in the practical activities associated with wiring a simple electrical assembly. They will be able to demonstrate that they can prepare for the activity and also take the necessary precautions to ensure the assembly is carried out safely and correctly. Learners will have an opportunity to check a range of components, cables, tools and equipment before the wiring is carried out. Having completed an electrical wiring activity learners will show that they can leave the work area in a safe and tidy condition and that they have produced an assembly to a reasonable standard.

Essential resources

A typical centre engineering workshop should be equipped with the basic requirements of this unit including a range of electrical wiring equipment and components, cables, tools and equipment for assembly operations. All supporting auxiliary equipment should also be available together with appropriate safety equipment.

Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Be able to prepare for and carry out an electrical wiring activity	1.1	Take precautions ready to carry out an electrical wiring activity	□ *Preparation activities*: precautions, e.g. tidy bench and floor area, planning assembly area layout, checking availability of services such as electrical or air supplies, putting tools and equipment into safe storage after use; preparation, e.g. correct components and cables and how they fit into the assembly, how to use tools and equipment, e.g. electrician's screwdriver (parallel slotted and Phillips head), adjustable wrench, craft knife, pliers with insulated handles, wire strippers, junior hacksaw, digital multimeter, tape measure; checking, e.g. damaged housing, broken insulation, missing terminal screws, quantity of components; preparation for termination activities, e.g. determining the sizes and lengths of required cables
		1.2	Prepare components, cables, tools and equipment ready for an electrical wiring activity	□ *Wiring electrical activity*: wiring a circuit, e.g. lighting, power, control, domestic lighting circuits, domestic power circuits, motor start and control, vehicle heating or ventilating, vehicle lighting, vehicle starting and ignition, instrumentation and control circuits, alarm systems (such as fire, intruder, process control), electro-pneumatic or electro-hydraulic control circuits, other control circuits (such as pumps, fans, blowers, extractors), lighting, air conditioning control circuits, refrigeration control circuits, heating/boiler control circuits, aircraft lighting circuits, power generation and control circuits, avionic circuits and systems, emergency lighting systems, communication systems, computer systems including earthing procedures and circuit protection; wiring circuit or assembly to contain cabling; simple test to ensure wiring meets the standard, e.g. continuity test, insulation resistance test; making visual checks, e.g. positioning of components, for damaged sleeving, loose and exposed conductors, strain on terminations, insufficient slack cable at sockets
		1.3	Check components and cables before they are used in an electrical wiring activity	

Learning outcomes		Assessment criteria		Unit amplification
2	Be able to wire and terminate electrical components correctly and safely	2.1	List the safety aspects for an electrical wiring activity	□ *Electrical circuit or assembly*: circuit containing four components, e.g. isolators, switches, sockets, lamp holders, junction boxes/terminal blocks, panel lamps, circuit breakers/fuses, relays/contactors, alarm devices, motors/starters, pumps, heaters, blowers, luminaries, ballast chokes, consumer unit, residual current device (RSD), instruments, transformer, panel/sub-assembly, sensor, actuator, solenoids; positioning and securing of equipment and components; cables, e.g. PVC, flexible, single core, multiway, data/communications, fibre optics, screened/coaxial, ribbon cables, wiring loom/harness; preparing cables, e.g. stripping outer coating without damage to conductor insulation, stripping cable conductor insulation/protection; securing cables, e.g. clips, plastic strapping, lacing, harnessing, clips, protective sleeving, coded tabs; crimping, e.g. spade end, loops, tags, pins; making mechanical/screwed/clamped connections; soldering and de-soldering; installation, e.g. fixed, as on a wall, portable, as on a bench exercise board or special fixture
		2.2	Wire up electrical components correctly and safely	□ *Safety*: personal protection, e.g. wearing protective clothing, removal of loose clothing and jewellery, use of barrier cream, eye protection, safety footwear; preparation of assembly area; good housekeeping, e.g. cleanliness of work area, removal of waste materials, storage of materials and tools; maintenance of access, e.g. clear walkways, emergency exits; using cable stripping and terminating tools safely and correctly; adhering to safety procedures or systems, e.g. risk assessment, COSHH

Information for tutors

Delivery

This unit is about preparing for and carrying out an electrical wiring activity correctly and safely. It therefore lends itself to be delivered in a holistic way and by learners practising in the workshop and reflecting on the experiences gained relating to safety and the correct use of components, cables, tools and equipment when carrying out these activities.

A key part of delivery is therefore likely to be demonstration and practice although some awareness raising may be needed in a safe environment such as a classroom. Although both learning outcomes are practical in nature, some underpinning knowledge will need to be established before learners are allowed access to the practical activities. Checking of this may be best achieved through question and answer sessions. Other activities such as 'card games' or 'word searches' etc may also be appropriate and helpful.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Be able to prepare for and carry out an electrical wiring activity Whole-class, tutor-led discussions about the importance of good preparation. Whole-class, tutor-led demonstration of good practice and preparation in the electrical workshop. Individual activity: learners visit a poorly laid out wiring or assembly area and establish all points of bad practice, set this up as a competition. Individual activity: learners devise and play each other's crossword games about the precautions to take and the checking of components and cables. Assessment of this part of the unit is likely to be achieved within activities to meet the requirements of the second learning outcome.
Be able to wire up electrical components correctly and safely Individual cloze activity (completing gapped handouts) about safety aspects etc. Whole-class, tutor-led demonstration of electrical wiring activities. Individual activity: learners practise producing electrical wiring assemblies, with formative checks until learners show a reasonable level of competence and safety. Individual summative assessment activity. This will take a large proportion of the time for this part of the unit.

Assessment

The centre will devise and mark the assessment for this unit.

Learners must meet all assessment criteria to pass the unit.

Due to the nature of the assessment requirements of this unit it is likely that summative assessment will take a large proportion of the 30 hours assigned to the unit. Learners should only be the assessed once the tutor is comfortable with their level of competence developed during the formative stages of the practical activities.

A single assignment could be developed to address all the assessment criteria. It should be based on the practical activity of assembling electrical components and cables correctly and safely. This does mean that most of the evidence will be in the form of witness statements/observation records supported by annotated photographs of what learners carried out, and work area layout, along with component and cable listings etc. 2.1 will however require either a written list of safety aspects produced by learners or a list written by the tutor and extracted from the learner, and authenticated as such.

The wiring assembly given to each learner must include a range of opportunities for them to take appropriate precautions before they prepare for and start the assembly activity in a correct and safe manner. The electrical wiring assembly must include four different components and have a cable type from those listed in the unit content. Whilst the circuit does not need to contain all those listed it should have a simple function. Typical circuits are given in the unit content under learning outcome 1. This would add relevance to this activity. When designing the circuit to be assembled, and the components and cables to be carried out used care must be taken to ensure a protection device is included, and that learners have opportunities to show that the assembly is carried out correctly and checked using simple tests and visual checks. It would also be sensible to include some components or cables that are not 'fit for purpose' for example broken insulation, so that learners can demonstrate they have checked components and cables before assembling and requested an exchange. The opportunity to check the wiring for correct function is also important and part of the requirements of 2.2.

Suggested resources

Books

Linsley R – *Basic Electrical Installation Work* (Butterworth-Heinemann, 1998) ISBN 978-0340705742

Meredith B – *Ortho – Wiring Basics* (Ortho Books, 2000) ISBN 978-0897214407

Journals

Engineering Magazine ISSN 0013-7782

Engineering and Technology Magazine ISSN 1750-9367

Websites

uk.rs-online.com	Electrocomponents plc
www.maplin.co.uk	Maplin
www.rapidonline.com	Rapid

Unit 14: Developing Skills in Routine Servicing of Mechanical Equipment

Unit reference number: R/601/0125

Level: 1

Credit value: 3

Guided learning hours: 30

Unit aim

This unit introduces learners to the skills needed to carry out the routine servicing of mechanical equipment. It will give them the opportunity to think about the necessary precautions and safety requirements when carrying out a routine service on mechanical systems or equipment by learning about equipment, fluid systems, components and operating mechanisms. This unit provides some of the knowledge, understanding and skills for the Level 1 Performing Engineering Operations NOS Unit 10: Carrying Out Routine Servicing of Mechanical Equipment.

Unit introduction

In this unit learners will explore the activities involved in the routine servicing of mechanical systems or equipment. When carrying out servicing activities they will learn about the necessary safety requirements, and routine servicing equipment, components and systems.

Learners will be involved in the practical activities associated with the routine servicing of a mechanical system or piece of equipment. They will be able to demonstrate that they can prepare for the service, and take the necessary precautions to ensure the service is carried out safely and correctly. Learners will have an opportunity to make adjustments, such as setting a belt tension, check and fill fluid levels, test and check for leaks and replace components. Having carried out a routine service on a mechanical system or piece of equipment learners will show that they can leave the work area in a safe and tidy condition and that they have carried out the service to a reasonable standard.

Essential resources

A typical centre engineering workshop should be equipped with the basic requirements of this unit including a range of mechanical systems or equipment and components, tools and equipment for servicing operations. All supporting auxiliary equipment should also be available together with appropriate safety equipment.

Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know about routine mechanical servicing operations	1.1	List what to do for the routine servicing of a given mechanical system/equipment	□ *Mechanical servicing operations*: making adjustments to equipment, e.g. adjusting clearances, setting belt tensions, setting operating mechanisms like levers and linkages, setting air line pressures; checking and filling fluid and/or lubrication systems, e.g. topping up oil, fluid or coolant levels, removing excess dirt and grime; making prescribed tests and checks, e.g. checks on self-diagnostic systems, tests for air or fluid leaks, functionality checks; carrying out visual checks, e.g. for damage, excessive wear on belts or chains, leaking seals, contaminated lubricants; changing 'lifed' components for example filter lubricants, hydraulic fluids, coolants, seals, gaskets, locking devices; checking all pipework and flexible hoses, e.g. checking pipe joints and connectors are tight and free from damage and leaks; replacing and/or remaking all seals, joints and pipe work which is not serviceable
		1.2	Tell your supervisor what you are going to do when servicing a different given mechanical system/equipment	

Learning outcomes		Assessment criteria		Unit amplification
2	Be able to service mechanical equipment and systems safely.	2.1	Follow safe working practices and procedures when carrying out mechanical servicing operations	□ *Safe working practices and procedures*: making sure equipment is safe to work on, e.g. isolated, out of service and use; wearing protective clothing, e.g. overalls, safety shoes, eye protection, gloves and/or barrier creams; complying with regulations and organisational safety procedures, e.g. permit to work; keeping the work area free of waste materials, surplus materials, tools/equipment; checking that all servicing operations have been completed, all guards and covers have been replaced and there are no oil or fluid leaks
		2.2	Carry out a routine service for a given mechanical system/equipment	□ *Mechanical equipment and systems*: examples of suitable equipment could include pumps, valves, engines, gearboxes, fluid power systems, heating, ventilating and refrigeration systems, drive and control systems/mechanisms; systems including fluids, e.g. lubricants, coolants, hydraulics; non-serviceable components/'lifed' components, e.g. belts, filters, gaskets; operating mechanisms, e.g. belts, chains, levers, cams

Information for tutors

Delivery

This unit is about preparing for and carrying out routine mechanical servicing operations correctly and safely. It therefore lends itself to be delivered in a holistic way and by learners practising in the workshop and reflecting on the experiences gained relating to safety and correct adjustments, checking and filling fluid and/or lubrication systems, carrying out prescribed tests and checks, and changing components when carrying out these operations.

A key part of delivery is therefore likely to be demonstration and practice, which should be carried out on more than one system or piece of equipment. This is where the major part of the time will be spent during delivery although some awareness raising may be needed in a safe environment such as a classroom. Although the second learning outcome is practical in nature some underpinning knowledge will need to be established before learners are allowed access to the practical activities. This, in fact, is the essence of the first learning outcome which is knowledge based. Further checking of this may be best achieved through question and answer sessions. Other activities such as 'card games' or 'word searches' etc may also be appropriate and helpful.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know about routine mechanical servicing operations
Whole-class, tutor-led discussions about the importance of good preparation.
Whole-class, tutor-led demonstration of good practice and preparation in the servicing or mechanical workshop.
Individual practice of routine operations, led by the tutor. Individuals work on different servicing operations such as making adjustments, checking and filling fluid and/or lubrication systems, carrying out prescribed tests and checks, and changing components on simple mechanical equipment or systems, such as pumps, valves, engines, gearboxes, fluid power systems, heating, ventilating and refrigeration systems, drive and control systems/mechanisms and systems including fluids.
Individual activity listing what learners carried out, what safety issues arose and the precautions taken etc.
Whole-class discussion on what each individual carried out during the servicing operations.
Individual summative assessment activity – listing what needs to be carried out for a given servicing operation, addressing 1.1.
Assessment 1.2 is likely to be achieved within activities to meet the requirements of the second learning outcome, where learners should be asked what they are going to do when servicing a different given mechanical system/piece of equipment.

Topic and suggested assignments/activities
Be able to service mechanical equipment and systems safely Individual cloze activity (completing gapped handouts) about safety aspects etc. Further whole-class, tutor-led demonstration of the routine servicing of mechanical systems/equipment. Further individual activity, practising servicing mechanical systems/equipment, with formative checks until learners show a reasonable level of competence and safety. Individual summative assessment activity. This will take a large proportion of the time for this part of this learning outcome.

Assessment

The centre will devise and mark the assessment for this unit.

Learners must meet all assessment criteria to pass the unit.

Due to the nature of the assessment requirements of this unit it is likely that the summative assessment will take a large proportion of the time assigned to the unit. Learners should only be assessed once the tutor is comfortable with their level of competence developed during the formative stages of the practical activities.

Two assignments could be developed to address the assessment criteria. The first assignment could address 1.1 as a stand-alone activity listing what to carry out for the routine service of given mechanical system/equipment. The second assignment should be based on the practical activity of routine servicing a mechanical system or piece of equipment correctly and safely. The given mechanical system or equipment must be different to that given for 1.1. This does mean that most of the evidence for 2.1 and 2.2 will be in the form of witness statements/observation records supported by annotated photographs of what learners carried out and work area layout and system or equipment serviced, along with notes, servicing logs or listings etc 1.2 will also require a statement about what learners said during the activity, and authenticated as such.

The routine service allocated to each learner must include a range of opportunities for them to take appropriate precautions before they prepare for and start the service activity in a correct and safe manner. The mechanical system/equipment must enable learners to make adjustments, check and fill fluid and/or a lubrication system, carry out prescribed tests and checks, including visual checks, change 'lifed' components, and check all pipework and flexible hoses. Typical systems and equipment are given in the unit content under learning outcome 2. This would add relevance to this activity. When designating the service to be carried out care must be taken to ensure a non-serviceable component is included, and that learners have opportunities to show that the service is carried out correctly, checked and returned to use.

Suggested resources

Books

Mobley R K – *Maintenance Fundamentals* (Butterworth-Heinemann, 2004) ISBN 978-0750677981

Salmon D – *NVQ Engineering Level 2 Mechanical Units* (Longman, 1998) ISBN 978-0582302990

Salmon, Powdril – Mechanical Engineering: Level 2 NVQ: Performing Engineering Operations (Newnes, 2002) IBSN 978-0750654067

The following are examples of materials that support understanding of more complex equipment and systems:

Dixon G – Dishwasher Manual: DIY Plumbing, Fault-finding, Repair and Maintenance (Hardcover) (Haynes, 2009) ISBN 978-1844255559

Dixon G – The Washing Machine Manual: DIY Plumbing, Fault-finding, Repair and Maintenance (Hardcover) (Haynes, 2007) ISBN 978-1844253487

Journals

Engineering magazine) ISSN 0013-7782

Engineering and Technology Magazine ISSN 1750-9367

Other publications

Manufacturers' manuals and data sheets

Unit 15: Developing Skills in Planning and Making a Machined Product

Unit reference number: Y/600/9140

Level: 1

Credit value: 6

Guided learning hours: 60

Unit aim

This unit will enable learners to develop the skills needed to plan and carry out the manufacture of a product using a small range of materials, machinery and tools. This unit provides some of the knowledge, understanding and skills for the Level 1 Performing Engineering Operations NOS Unit 7: Using Lathes for Turning Operations, NOS Unit 8: Using Milling Machines and NOS Unit 9: Using Grinding Machines.

Unit introduction

In this unit learners will be introduced to some of the practical skills needed to carry out machining operation using machine tools. They will consider the importance of communicating in technical terms by using and interpreting engineering drawings, and investigate what is involved when planning the manufacture of a product. Learners will then go on to manufacture a product and carry out inspection procedures to check that it conforms to a given specification.

Learners will consider the importance of using the correct raw materials, working safely with powered machinery and the need to check that guards, isolation switches, tools and equipment are in a safe and useable condition at all times. They will appreciate that before they start up a machine they must ensure that the work piece is fixed correctly, tools are mounted properly and the appropriate personal protective equipment (PPE) is being used.

This unit will help learners to appreciate the importance of following give instructions when carrying out activities and recognise what might go wrong when working with machine tools. Cleaning down work areas on completion of activities and the return of tools and equipment to safe storage are considered in the context of good housekeeping and efficient working.

Essential resources

It would be extremely useful if learners had access to a range of equipment commonly used in engineering. It may be possible to arrange a visit to an engineering company to extend learner awareness of the range of resources used in engineering.

A typical centre engineering workshop should be equipped with the basic requirements of this unit including a range of grinding machines, milling machines and turning machines. All supporting auxiliary equipment should also be available together with appropriate safety equipment.

Workshops should be staffed appropriately to ensure health and safety requirements are met. Technician support may be required during practical work.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know about equipment, tools and materials required to make machined products	1.1	List the types of equipment used when making machined products	□ *Equipment*: centre lathe; milling machine, e.g. vertical, horizontal, universal; grinding machine, e.g. cylindrical, surface; key features of the equipment, e.g. motor, drive system, rotating parts, slideways, table, tool holding, guards, work holding, start/stop
		1.2	List the tools and work holding devices used when making machined products	□ *Tooling*: cutting tools, e.g. single point, parting off, end mill, side cutter, face cutter, end mill, slot mill, centre drill, twist drill, reamer, tap, die, grinding wheels; work holding equipment, e.g. vice, alignment tennons, chucks, centres, clamps, angle plates, special fixtures, magnetic plates
		1.3	List the types of materials from which machined products can be made	□ *Materials*: ferrous, e.g. cast iron, plain carbon steels; non-ferrous, e.g. aluminium, copper, brass; non-metallic, e.g. polythene, PVC, nylon, Bakelite, melamine
2	Be able to use simple engineering drawings to plan the manufacture of a machined product	2.1	Identify features of a component by interpreting an engineering drawing	□ *Engineering drawings*: 2D projection, e.g. 1st angle, 3rd angle; isometric projection; details, e.g. dimensions, text, abbreviations, hidden detail, sections; sketches
		2.2	List the steps in a plan which can be followed when manufacturing a product	□ *Planning*: raw materials; processes; tooling; sequence of operations; machine settings, e.g. speed, feed, depth of cut; safe working

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to prepare a work area for producing a machined product	3.1	Confirm with a supervisor what has to be done before manufacturing activities are carried out	□ *Before stating work*: understand the task, e.g. what needs to be carried, order of operations, tools and equipment, quality checks; personal protection, e.g. eye protection, hair protection, removal of loose clothing and jewellery, footwear, use of barrier cream; regulations and safety procedures; maintenance of access, e.g. clear walkways, emergency exits; understand the need for good housekeeping, e.g. cleanliness of work area, removal of waste materials; understand what might go wrong, e.g. damaged materials, tool breakage, finished products not to standard; confirm proposed actions with a supervisor
		3.2	Prepare a manufacturing work area	□ *Work area preparation*: select appropriate machinery, e.g. milling machine, centre lathe, grinding machine; obtain raw materials, e.g. ferrous, non-ferrous, non-metallic; select tools and equipment; obtain correct personal protective equipmen,t e.g. eye protection, hair protection, overalls, safety footwear; identify procedure for machine start/stop in both normal and emergency situations
		3.3	Check raw materials are correct and that machinery and tools are safe to use	□ *Check raw materials are correct and that machinery and tools are safe to use*: check materials, e.g. correct type, correct size, free from defects; condition of machine, e.g. guards, isolator switch, start/stop switch, emergency stop switch, limit switch, cutting lubricants; condition of cutting tools, e.g. sharpness, tip angle, damaged teeth; condition of grinding wheels, e.g. damage, cracks, balance, requiring dressing, condition of holding devices, e.g. chucks, e.g. 3 jaw, 4 jaw, collets, centres, machine vice, angle plate, blocks, clamps, magnetic plate

Learning outcomes		Assessment criteria		Unit amplification
4	Be able to make an engineered product to a specification, using appropriate equipment and processes which are carried out in a safe manner	4.1	Use machines, tools and equipment to manufacture a product	□ *Making a machined component*: turning, e.g. plain and stepped diameters, faces, drilled and reamed holes, chamfers and radii, knurling, grooves and undercuts, parting off; milling, e.g. horizontal faces, parallel faces, vertical faces, open-ended slot, enclosed slot; grinding, e.g. flat surface, cylindrical surface, shoulder; machine settings and adjustments, e.g. spindle speed, feed rate, guards, safety devices; cutting lubricants, e.g. fluids, compounds
		4.2	Check that the product meets the standard required	□ *Component checks*: appearance, e.g. cuts, burrs, sharp edges; tolerances for turning, e.g. dimensions +/- 0.25 mm, surface finish 1.6 um; tolerances for milling, e.g. dimensions +/- 0.25 mm, flatness and squareness within 0.125 mm per 25 mm, surface finish 1.6 um; tolerances for grinding, e.g. dimensions +/- 0.1, flatness and squareness within 0.025 per 25 mm, surface finish 0.4 um; measuring equipment, e.g. micrometer, vernier, rule, gauges, dial test indicator
		4.3	Clean down work area and return tools to storage	□ *Cleaning down and putting away*: collection of swarf, e.g. brush, collection pan, recycling container; tools and equipment, e.g. cleaning cloth, tool case, toolbox, remove cutting tools; return to stores, e.g. tools, equipment, surplus materials; machine isolation, inspection of work area, e.g. visual, sign off

Information for tutors

Delivery

This unit is essentially practical and learners would benefit from practising their skills before being assessed. Learners should think about the processes needed and actions to be taken to prepare their workplace and then make basic components. Learners should have opportunities to talk about what they are going to do and how they propose to overcome any problems that may occur while they are using machine tools. It is important that learners understand the hazards involved when working with powered machinery and the measures that must be taken in order to minimise risk. They should also be fully aware of what to do in the case of an emergency.

The development of a production plan should be encouraged together with the use of engineering drawings that detail the features to be machined.

The product should be relatively simple and made up from a small number of components that will allow use of the different machining processes to be demonstrated and assessed, for example a small hand vice, toolmaker's clamp, adjustable square. It will add interest if learners can keep what they manufacture.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
List the type of equipment used when making machined products. Tutor-led unit introduction covering content, method of working and assessment. Tutor-led overview of the manufacturing skills learners will develop. Small-group activity to identify the key features of a small range of given machine tools.
List the tools and work holding devices used when making machined products. Whole-class, tutor-led discussion about tools and work holding equipment. Paired activity to match tools and work holding devices to appropriate machinery.
List the types of materials machined products can be made from. Whole-class, tutor-led discussion about the types of materials which are available to use in a workshop. Paired activity to identify samples of given materials. Follow up by looking at machined components – identify the material and think about the manufacturing process it is used within.
Assessment activity – types of equipment, tools and materials used when manufacturing products. Individual activity based on a given engineered product which addresses the unit content and assessment criteria 1.1,1.2 and 1.3.

Topic and suggested assignments/activities
Identify features of a component by interpreting an engineering drawing. Tutor-led discussion about different types of engineering drawings – present simple exemplars. Paired activity to extract information from a given engineering drawing. Paired activity to identify key features of components from 2D orthographic and isometric projection drawings.
List the steps in a plan to follow when manufacturing a product. Whole-class, tutor-led discussion about how engineers plan the manufacture of engineering products. Using one or two basic components as examples – tutor presents drawing(s)/sketch(es), list of tools, machines, materials, sequence of operations, quality checks. Paired activity to plan the manufacture of a given product.
Assessment activity – identify features of a component and plan its manufacture. Individual activity based on a given engineered product that is made up from a small number of basic components. The activity should address the unit content and assessment criteria 2.1 and 2.2.
Confirm with a supervisor what has to be carried out before manufacturing activities are carried out. Tutor-led discussion about PPE, where and when it is necessary and how it works. Individual activity – identify specific risks when operating a lathe, milling machine and a grinding machine and the actions to take reduce risk of injury. Tutor-led discussion about the need to confirm proposed activities with a supervisor. Tutor-led discussion about emergency procedures to be followed if problems arise when working with machine tools.
Prepare a manufacturing work area. Whole-class, tutor-led discussion about the need to prepare manufacturing work areas – present exemplars of poor and good preparation. Paired activity to identify hazards/bad practices in workshops – presented as images with a checklist to complete.
Check raw materials are correct and that machinery and tools are safe to use. Whole-class, tutor-led discussion about why raw materials, machinery and tools should be checked before use. Tutor presents a small range of examples that show the consequences of working with materials, machinery and tools that are not fit for purpose. Small-group activity to identify the risks involved when working with lathes, milling machines and grinding machines and the measures that should be taken to reduce these risks.

Topic and suggested assignments/activities
Use machines, tools and equipment to manufacture a product. Paired and individual activities to develop skills when working with machine tools – work and tool holding, trial cuts, checking accuracy, different type of machining process, application of lubricants. Individual manufacture of components using machine tools. Setting up and adjusting machine settings, cutting materials and carrying out dimensional checks. Paired activity – machine isolation and clean down.
Check that the product meets the required standard. Whole-class, tutor-led discussion about why machined features should be checked against the specification. Paired activity to check that the manufactured product meets the specification.
Clean down work area and return tools to storage. Tutor-led discussion about the need for 'good housekeeping' in engineering workshops. Paired activity – machine isolation, clean down, return of tools, equipment and unused raw materials to storage.
Assessment activity – prepare a work area and manufacture a product using machine tools. Individual activity to manufacture a product using processes, tools and procedures which address the unit content and assessment criteria 3.1, 3.2, 3.3, 4.1, 4.2, 4.3. This assessment activity is linked to the previous one covering 2.1 and 2.2.
Seek and respond to guidance from the tutor. Tutors should encourage learners to have a dialogue with them. This could be prompted by the tutor asking learners to explain what they are doing, why they are doing it and how they are able to work safely. This does not require a formal allocation of time and should occur during delivery and assessment of the unit.

Assessment

The centre will devise and mark the assessment for this unit.

Learners must meet all assessment criteria to pass the unit.

Learners will benefit from access to a range of assessment opportunities. Examples might include observed practice, recorded explanations, checklists and annotated photographic records. Entries within a logbook and a finished product inspection record, both validated by the tutor, are also appropriate methods for recording achievement. Competence in practical activities should be evidenced through witness testimonies or observation records signed by the tutor.

Suggested resources

Books

Boyce et al – *Engineering Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435756253

Chapman et al – *GNVQ Intermediate Engineering* (Longman, 2000) ISBN 9780582381384

Darbyshire et al – *GNVQ Intermediate Engineering* (Nelson Thornes, 1997) ISBN 9780748729364

Jensen C – *Interpreting Engineering Drawings* (Delmar, 2001) 9781418055738

Simmons C and Maguire D – *Manual of Engineering Drawing to British and International Standards* (Butterworth-Heinemann, 2003) ISBN 9780750651202

Timings R L – *Basic Manufacturing* (Newnes, 1998) ISBN 9780750659901

Timings R L – *Manufacturing Technology Volume One* (Longman, 1998) ISBN 9780582356931

Tooley M – *Engineering GNVQ Intermediate* (Butterworth-Heinemann, 1996) ISBN 9780750625975

Waters F – *Fundamentals of Manufacturing for Engineers* (UCL Press, 1996) ISBN 9781857283389

Tutor resource disk

Boyce et al – *Engineering Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435756260

Other publication

N Phelps, C Simmons: editors – A guide for schools and colleges to British Standard PP 8888:2006, 3rd edition 2007 ISBN 9780580508684

Website

www.hse.gov.uk	Health and Safety Executive

Unit 16: Planning an Enterprise Activity

Unit reference number: R/503/2857

Level: Level 1

Credit value: 1

Guided learning hours: 10

Unit aim

The aim of this unit is to give learners the skills and knowledge to plan an enterprise activity. Learners will generate ideas for products or services, and consider the roles and skills required, and the likely costs as well as the promotional materials needed.

Unit introduction

Enterprise activities offer opportunities to learn and develop the entrepreneurial characteristics of tenacity, independence, innovation, imagination, risk taking, creativity, intuition and leadership. The focus of this unit is for learners to develop an understanding of how to set up an enterprise activity to sell a product or service, including the costs and responsibilities involved. Learners will also consider the skills required for the enterprise activity and how to promote the activity.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know how to select a suitable enterprise activity	1.1	Identify strengths of ideas generated for an enterprise activity	□ *Strengths and weaknesses of enterprise activity ideas*: availability and cost of resources, e.g. human and financial resources, materials, facilities, equipment, timescales, specific skills and knowledge required, potential demand for product or service, potential competition
		1.2	Identify weaknesses of ideas generated for an enterprise activity	
2	Know appropriate roles and skills required for the enterprise activity	2.1	Identify roles required for the enterprise activity	□ *Roles required*: e.g. planner, salesperson, manufacturer, administrator, financial controller
		2.2	Identify the practical and personal skills required for the enterprise activity	□ *Practical and personal skills required*: planning skills, budgeting and financial skills, manufacturing skills, communication, confidence, knowledge of product or service, customer service skills, promotional and selling skills
3	Know the costs involved in producing and selling a product or service	3.1	Identify the cost of items and processes related to producing and selling the product or service	□ *Production costs*: ingredients, components, equipment, facilities, skills, time □ *Selling costs*: advertising, printing of leaflets or flyers, facilities, e.g. hire of stall at charity event or local market
		3.2	Identify the final pricing of the product or service using basic calculations	□ *Pricing of the product or service*: realistic pricing; covering costs and making a profit

Learning outcomes		Assessment criteria		Unit amplification
4	Be able to use an appropriate promotional technique	4.1	Use an appropriate method to promote a product or service	□ *Promotional materials and methods*: selection of relevant media for promotion, e.g. poster, leaflet, flyer, launch event; using a logo or branding; using pricing strategies, e.g. special introductory discount; conveying information about product or service in a way that is clear, accurate and attractive, e.g. information about location, availability, contact information, features of product or service

Information for tutors

Delivery

This unit has been designed to be as practical as possible. Learners should be encouraged to gain an understanding of the relevant enterprise concepts in an applied way. Group working and group discussion would be appropriate, even where the learner's own assessment evidence needs to be recorded separately.

An enterprise activity does not have to be a large-scale activity. It can either be producing a product, for example greeting cards, baking biscuits, making sweets, making jewellery, or providing a service such as selling ice cream or car washing. During the delivery of this unit, learners should be given as much practical experience as possible.

This unit has been designed so that it can be delivered with *Unit 17: Running an Enterprise Activity* and *Unit 18: Producing a Product*.

To introduce the unit, tutors could stimulate discussion as to what is needed for a successful enterprise activity and, through the discussion, ideas could be generated regarding different types of products and services. It is important to emphasise that the activity must be possible within the learner's current skills. These ideas could be explored individually or through group activity.

A question and answer session could determine the strengths and weaknesses of different enterprise ideas. The advantages and disadvantages of ideas could also be explored through the form of a 'Dragons' Den' type of presentation to a group, with peers commenting on the ideas.

Group discussion could be used to explore roles within an enterprise activity and the personal skills involved. Learners could also interview business people or consult entrepreneur websites for ideas on the kind of roles and skills needed for different types of enterprise activity.

In order for learners to understand the importance of promotional techniques and selling skills, it would be useful for them to watch clips of TV adverts and/or review advertising from a range of sources such as the internet, radio, newspapers and magazines. Point of sale advertising could be a useful resource, which is also readily available. Specific information on selling skills could be gained from a range of services including books, internet and media articles. Personal skills in enterprise could be observed through TV documentaries on business start-ups and programmes such as *Dragons' Den*.

Learners could investigate costs of their chosen enterprise idea by active research via the internet or interaction with possible suppliers. Setting prices could be a result of research (such as questionnaires or a small-scale focus discussion), exploring what prices customers are prepared to pay for a product or service. Business people could also be interviewed for advice on how to set a realistic profit margin.

To complete this unit, learners could explore and research a variety of advertising media and promotional events as they decide on the appropriate promotion materials for their enterprise activity.

Assessment

This unit can be assessed through a series of structured tasks or activities including a mixture of theory-based and practical application.

For 1.1 and 1.2, the learner should be given the opportunity to discuss possible ideas for an enterprise activity before deciding on the strengths and weaknesses of the ideas. This could be part of a group discussion with a tutor or take place as an individual activity. The learner must identify more than one type of product or service before choosing one enterprise idea to pursue further in this unit. The learner needs to identify at least one strength and one weakness in two different enterprise ideas.

To achieve 2.1 and 2.2, the learner needs to identify the different key roles for their enterprise activity. These could include examples such as the role of researcher, promoter, salesperson and keeping financial records. Additionally, the learner must be able to identify practical and personal skills that would be required in the enterprise activity.

To achieve 3.1, the learner needs to identify a range of costs, and processes related to producing and selling their product or service. This could be presented as a brief poster or a written presentation.

To achieve 3.2, the learner is required to use basic calculations to show how they will work out their final sale price for their product or service. This could be included as part of the poster or the presentation produced for 3.1.

For 4.1, the learner must produce some promotional material for their product or service such as a flyer or poster containing key information. This information should include an accurate description of the product or service, logo or branding, price, location and availability of the product or service and/or contact information.

Suggested resources

Websites

www.enterprise-education.org.uk	Enterprise Education Trust
www.enterpriseinschools.org.uk/	Enterprise in schools – access to education
www.gov.uk/browse/business	Government information on starting up and running a business
www.stridingout.co.uk	Provides leadership, business and career-building advice

Unit 17: Running an Enterprise Activity

Unit reference number:	**Y/503/2858**
Level:	**Level 1**
Credit value:	**1**
Guided learning hours:	**10**

Unit aim

This unit gives learners the opportunity to use their skills and knowledge to run an enterprise activity. Learners will gain practical experience of choosing a venue, products, marketing and setting prices in relation to costs.

Unit introduction

Enterprise activities offer opportunities to learn and develop the entrepreneurial characteristics of tenacity, independence, innovation, imagination, risk taking, creativity, intuition and leadership. The focus of this unit is to provide learners with the opportunity to carry out an enterprise activity. Learners will demonstrate selling a product or service, taking into account the practical and personal skills required.

Learners will also develop an understanding of how to . the chances of success in an enterprise activity and how to evaluate its performance.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know how to increase the likelihood of success in an enterprise activity	1.1	Identify features which would lead to the effective delivery of a chosen enterprise activity	□ *Features leading to effective delivery*: identify customers and what customers want or need, conduct market research, estimate number of sales, plan tasks and timescales, allocate tasks and roles according to a plan, evaluate skills needed and who best able to provide them
2	Be able to complete an enterprise activity	2.1	Prepare the product or service for the enterprise activity incorporating required features	□ *Selling a product using practical and personal skills*: suitable product or service prepared; necessary components obtained; appropriate promotional materials produced and displayed; location prepared and enterprise activity set up; prices determined and displayed; sales and communication skills demonstrated, implementation and organisational skills demonstrated
		2.2	Create appropriate advertising for the product or service	
		2.3	Set an appropriate price for the product or service offered	
		2.4	Demonstrate appropriate sales and communication skills	

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to review the success of the enterprise activity	3.1	Produce records to show the successes and failures of the enterprise activity	□ *Producing records*: show cost of producing product or service; recording numbers of product or service sold; income before costs; profits/losses; evaluating success of enterprise activity in terms of number of sales and profit made/not made; reasons for success or failure, e.g. quality of the product, venue, cost, weather, advertising
		3.2	State what would be done differently should there be another enterprise activity	

Information for tutors

Delivery

This unit has been designed to be as practical as possible. Learners should be encouraged to gain an understanding of the relevant enterprise concepts in an applied way. Group working and group discussion would be appropriate, even where the learner's own assessment evidence needs to be recorded separately.

An enterprise activity does not have to be a large-scale activity. It can either be producing a product, for example greeting cards, baking biscuits, making sweets, making jewellery, or providing a service such as selling ice cream or carwashing. During the delivery of this unit, learners should be given as much practical experience as possible.

This unit has been designed so that it can be delivered with Unit 16: Planning an Enterprise Activity and Unit 18: Producing a Product.

At this level, learner activities will require them to carry out some multi-stepped tasks. In the completion of tasks for this unit, learners should demonstrate appropriate planning and preparation skills. Additionally, the learner must be given the opportunity to show competency in organisational skills and skills in reviewing the success (or failure) of the enterprise activity. A learner in the workplace should be able to identify and use some work-related skills in running their enterprise activity.

Learners are likely to require clear guidance from their tutor or line manager in thinking about how to run their enterprise activity, but should operate with less supervision than at Entry Level 3. Regular feedback will promote steady progress in the development of the required skills and knowledge. Learners will require supervisory guidance and regular monitoring and review of progress in order to identify the knowledge and skills that have been developed.

Learners might find it helpful to use group discussions to explore features that should ensure that their enterprise activity is successful. 'Successful' in this context means that the learner understands how to carry out their activity and reach their planned sales targets.

Group discussions may also be a useful way of helping learners understand the importance of consumer needs in influencing the success of an enterprise activity. Learners could also seek advice or opinions from visiting guest speakers or other business people about consumer demand and how the enterprise activity might meet consumers' needs.

Group discussions could be used to come up with a checklist of tasks needed to carry out the activity on the day(s) chosen. The list of tasks could also be produced as an individual piece of written work or as a PowerPoint presentation.

The learner's enterprise activity could be delivered as part of an enterprise activity day using the format of a trade fair with a variety of stands. Alternatively, the enterprise activity could also take the form of a one-off, small-group activity or an individual enterprise activity.

Learners could seek guidance from record sheet templates that suggest the key financial information that need to be recorded to evaluate the overall successes and/or failures of the enterprise activity. Learners could also seek advice from entrepreneurs or business people regarding which financial information to record and how to present it. They could also participate in a question-and-answer session with a visiting speaker.

Assessment

Assessment of this unit centres on the completion of an enterprise activity.

For 1.1, the learner must identify key features leading to the success of a chosen enterprise activity. This could be provided, for example, in a written report, a brief presentation, video evidence or completion of a log or record sheet. The number of key features would depend on the nature of the enterprise activity, but typically the learner should be able to discuss at least two key features for success.

For 2.1 to 2.4, the learner must provide witnessed evidence that the enterprise activity has taken place. The product or service must have been prepared incorporating the features specified in 1.1, the price and benefits of the product or service made clear, and appropriate sales and implementation skills must have been demonstrated by the learner. The prepared product or service may comprise something the learner has produced themselves (jewellery they have made), or something produced by someone else (ice cream purchased by the learner and sold on a stall at a trade fair). Photographic or video evidence can be used, as well as a tutor witness statement.

For 3.1, some simple records need to be provided, showing costs and revenue and a calculation of profit/loss made, providing a brief comment as to the reasons for success or failure of the enterprise activity. Record sheets provided by a tutor can be used for this purpose. For 3.2, the learner should be able to state what would be done differently should there be another enterprise activity. Consideration could be given to the venue, time of the enterprise activity, the marketing, quality of the product or service, and the communication skills used.

Suggested resources

Websites

www.enterprise-education.org.uk	Enterprise Education Trust
www.gov.uk/browse/business	Government information on starting up and running a business
www.stridingout.co.uk	Provides leadership, business and career-building advice

Unit 18: Producing a Product

Unit reference number: D/503/2859

Level: Level 1

Credit value: 1

Guided learning hours: 10

Unit aim

In this unit learners are given the knowledge and skills to safely produce a product or item. Learners will consider the skills required to make the product, and the necessary precautions to ensure safety. They will assess the finished item.

Unit introduction

Being involved in a production activity can help learners develop a range of basic entrepreneurial skills.

In this unit, learners will find out how to make a product or item safely, understand the skills required in making the product or item and evaluate the quality of the product or item. They will also consider whether the quality of the finished item is in line with original expectations.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know how to make a product or item	1.1	Produce a plan to make a product or item	□ *Plan for making a product or item*: choice of appropriate product or item to make, record steps to be followed in making the product or item; list and obtain resources and materials needed for product or item; plan for effective use of different types of equipment, e.g. tools, measuring instruments, appliances, containers, plan for safe use of equipment, use of safety clothing if required
		1.2	Identify the materials and equipment required	
		1.3	Identify any relevant safety points	
2	Understand the skills required to make the product or item	2.1	Outline the skills required to make the product or item	□ *Skills required to make the product or item*: technical, personal or practical skills required to make the product; identify any skills gaps
		2.2	Identify any new skills that might be required	
3	Be able to produce the product or item safely	3.1	Produce a product or item using relevant skills, materials and equipment	□ *Producing the product or item*: using appropriate materials and equipment
		3.2	Take appropriate measures to produce the product or item safely	□ *Steps to safely produce the product or item*: use correct materials, methods and equipment as required; use any equipment effectively and safely; use appropriate safety clothing and protection if required, e.g. safety glasses, appropriate footwear, gloves; first aid supplies available; produce safe item or product

Learning outcomes		Assessment criteria		Unit amplification
4	Be able to assess how well the product or item was made	4.1	State what parts of the finished product or item met with expectations	□ *Quality of the finished product or item*: quality of materials used, quality and use of equipment; comparing quality of final product or item against original plans for quality of product or item
		4.2	State what parts of the finished product or item did not meet the original expectations	
		4.3	Outline what changes would be made if the product or item were to be produced again	

Information for tutors

Delivery

This unit has been designed to be as pract ical as possible. Group work and group discussion would be appropriate, even where the learner's own assessment evidence needs to be recorded separately.

Learners should be encouraged to gain an understanding of producing a product or item. Group working and group discussion would be appropriate, even where the learner's own assessment evidence needs to be recorded separately. While producing their product or item, learners need to consider and apply the relevant safety measures.

Activities can be carried out individually or in groups. The process of producing the product or item is as important as the product or item itself.

The learning outcomes and assessment criteria refer to products or items. Learners could produce small items such as handmade jewellery, confectionery, candles or gift boxes as well as larger-scale products that might require the use of workshop facilities.

It would be helpful if learners could visit a production line to see how products and items are made on a commercial scale. The layout of the production line would help learners to sequence their own production plan, as well as giving them an opportunity to see how tools and materials are used. The safety concerns of staff using machinery can also be highlighted.

Group work can be used to generate discussion about the creation of production plans. Learners should be asked to create plans for producing products or items that they are familiar with, such as making a cup of coffee or tea. Learners can then concentrate on the process and think about the skills needed.

Learners need time to practise making their product or item. Safety should be paramount, and learners should be aware of the safety measures that they need to take. Peer assessment of their work will allow learners to develop their skills in assessing the quality of the finished product.

Learners need regular assessor support and guidance, with reviews of progress undertaken by the tutor or line manager to identify the knowledge and skills that have been developed, as well as areas of knowledge, understanding and skills that need improvement.

The unit focuses on developing the skills needed to make a product or item under some supervision.

Activities can be carried out individually, or a group of learners can work together to make an item or product. The item or product itself can be very simple in design – it is the learners' learning experiences that are important.

Delivery of this unit could be carried out in conjunction with Unit 16: Planning an Enterprise Activity and Unit 17: Running an Enterprise Activity.

Assessment

This unit can be assessed through a series of structured tasks or activities. A range of assessment activities can be used. Methods such as photographs and video and audio recordings could add to the range of evidence suggested.

For 1.1, 1.2 and 1.3 ,the learner must produce a straightforward plan for how the product or item will be produced, listing any materials and equipment needed, as well as the safety points to be aware of. Tutors or line managers could provide examples of planning templates but the learner must be able to independently select the best way to present their plan and decide the information required in the plan. Alternatively, a brief poster or PowerPoint presentation witnessed by the tutor could be used.

For 2.1, a question and answer session could be used as evidence for the learner to describe the skills required to make the product or item. Alternatively, the learner could include an outline of the required skills as part of the plan submitted for 1.1. The learner must outline at least two skills needed to make the product or item. These may be personal or practical skills. The learner must also be able to identify any new skills that might need to be acquired in order to make the product or item.

Criteria 3.1 and 3.2 should be combined so that the learner demonstrates that they have taken appropriate safety measures while making the product or item, or an aspect of the product or item safely. This evidence will be observed by the tutor or designated person. The evidence need to be recorded.

For 4.1 and 4.2, the tutor or line manager may prompt the learner with questions or comments about the item or product, but the learner must show that they are able to make an independent judgement about the quality of the item or product they have produced and whether it has met their original expectations. A statement about the quality of the final product or item could be written by the learner.

For 4.3, the tutor or line manager may prompt the learner with questions or comments about the item or product, but the learner must be able to show that they can outline changes that they would make to improve the item or product.

Alternatively for 4.1, 4.2 and 4.3, the tutor could record a discussion in which the learner comments on the quality of the finished item or product, and proposed changes. A question and answer session with a witness statement may be used to review how well the product or item was made, whether it has met the original expectations of the plan and how the plan could be modified. Alternatively, if a planning template was used for 1.1, the learner could cross-reference the quality of the product or item against the description of the product or item in the original planning template.

Suggested resources

Websites

www.enterprise-education.org.uk	Enterprise Education Trust
www.gov.uk/browse/business	Government information on starting up and running a business
www.stridingout.co.uk	Provides leadership, business and career-building advice

Unit 19: Managing Money Matters

Unit reference number: D/600/9317

Level: 1

Credit value: 1

Guided learning hours: 10

Unit aim

The aim of this unit is for learners to develop knowledge and understanding of how to manage their finances through planning a personal budget. Learners will explore ways of paying for goods and services and of making savings.

Unit introduction

A survey conducted by the Personal Finance Education Group (pfeg) revealed that more than half of teenagers were in debt to friends or families. Opportunity, peer pressure and media influence are all contributing factors. However, the survey also showed that being involved in making financial decisions helps young people and adults to feel more in control of their lives. Helping young people and adults to understand their attitudes and behaviours towards finance, as well as learning the jargon and knowing about financial products, is integral to this. This unit aims to develop learner knowledge and skills in these key areas to enable individuals to manage a personal budget and identify the savings they can make.

For learning outcome 1, learners explore different ways of paying for goods and services.

Reasons and ways to save are investigated in learning outcome 2.

For learning outcome 3, learners can prepare a personal budget and consider ways in which they make savings.

Essential resources

Learners need access to an interactive whiteboard and/or individual PCs.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know how to pay for goods and services	1.1	Describe ways to pay for different goods and services	□ *Forms of payment*: cash – easy for small items, accepted by most retailers, easy to monitor spending, can be lost; cheques – not available to under-16s, safe, can be posted, take time to clear, can bounce; cash card – used in Automated Teller Machines (ATMs) to get cash out of bank/building society account, need a Personal Identification Number (PIN), available at 11 years of age from some banks/building societies; debit card – used instead of cash, can draw money at ATM, needs a PIN, can pay for goods in shops, money taken directly out of account; direct debit and standing orders □ *Borrowing to pay for goods and services*: credit card, e.g. used instead of cash, payment made every month, credit limit, minimum monthly payment, interest charged on unpaid amount, difficult to keep track of spending, available at 18 years of age; store card, e.g. credit card for that store only, minimum monthly payment, higher rate of interest than credit cards
2	Understand saving	2.1	Explain reasons to save	□ *Reasons to save*: for an emergency; to buy large items; for a holiday; for higher education; for a pension; for peace of mind
		2.2	Review methods of saving	□ *Methods of saving*: saving accounts, e.g. National Savings, bank/building society accounts; in daily life, e.g. walk or cycle, saver tickets, mobile phone deals; clothes, e.g. markets or charity shops, sales; entertainment, e.g. 2 for 1 offers, borrow DVDs from library; food, e.g. buy own brands, drink tap water, packed lunch

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to plan a personal budget	3.1	Present a personal budget for a month	□ *Budgeting*: income, e.g. from earnings, gifts, pocket money, interest on savings; expenditure, e.g. spending on essential needs, luxury items; keep ongoing records
		3.2	Identify ways savings can be made in a personal budget	

Information for tutors

Delivery

Tutors have the opportunity to use a wide range of active learning methods and to tailor them to the particular interests of learners. Relevant and meaningful tasks, which involve learners in discussion and debate, are motivating and contribute to the development of the skills needed to make positive choices and anticipate problems before they arise. However, it is particularly important to be aware of the needs of individuals and their social or cultural background as issues with money and personal finance may be sensitive for some learners. Developing ground rules with learners to encourage constructive discussion and the promotion of respect, courtesy and understanding is an effective way to avoid problems. Activities such as role play, case studies and analysis of videos/DVDs, are distancing techniques which enable sensitive discussion of money issues. Activities for the interactive whiteboard include quizzes and games, which learners can play alone, in pairs and in groups, provide effective depersonalised learning opportunities.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Know how to pay for goods and services Introduction to unit and structure of the programme of learning and assessment. Activity – learners devise a questionnaire to interview family members about payment methods they use and reasons for their choice. Feedback questionnaire results to whole group for discussion. Activity – group activity – learners draw up table of advantages and disadvantages of each payment method. Activity – paired research – which credit card offers the best deal? Present findings to whole group to compare results. Activity – dramatisation of situations advising a friend about the best method to use to pay for different items. Activity – paired work. Analysis of case studies. Did the individuals in each case study choose the best payment method? Assessment – record ways to pay for different goods and services
Understand saving Activity – tutor poses a hypothetical question. You have been given £5000. What would you do with the money? Tutor-led discussion to explore needs and wants and explore the concept of saving. Activity – paired work – learners investigate the differences between needs, wants and demands through listing what they would need and want to survive on a desert island.

Topic and suggested assignments/activities
Activity – paired work – analysis of case studies to explore the impact of saving on individuals, e.g. a learner unable to find part-time work so she can afford to complete her course, learner needing funds to buy professional knives for a catering course. Tutor-led group discussion to consider the consequences for individuals in the case studies of borrowing money. Activity – competition. Groups challenged to think up money saving tips in relation to the home, travelling, entertainment and clothing. Make posters to display in the school or college (cross-curricular link to sustainability). Activity – investigate the cost of travel in the local area and how money could be saved, e.g. the cost of daily bus or train tickets compared with weekly, monthly or yearly travel passes, how often someone would need to travel in order to save money with the various passes. Activity – list situations where money and/or resources are wasted as a result of poor financial decisions, e.g. someone buying more food than they can use and throwing some away. Feedback for whole-class discussion. Activity– guest speaker from a financial organisation to discuss saving products. Activity – individual research into savings products to identify a product to suit own needs. Assessment – record reasons to save and methods of saving.
Be able to plan a personal budget Activity – tutor input. What documents do you need? Activity – paired work using simulated finance documents, extract information about expenditure of individuals. Activity – tutor demonstration of completing a budget sheet. Activity – worksheet. Activity – group work – budgeting challenge. Use case studies to plan management of individuals' finances in order to meet their needs without incurring debt. Activity – individual work – prepare own budget and identify savings. Assessment – record personal budget and how savings can be made.

Assessment

Assessment criterion 1.1 requires learners to give clear details about how to pay for different good and services. Appropriate payment methods for at least four different goods and services need to be given. Evidence may be provided in response to case studies.

For 2.1, learners must give at least four different reasons for saving.

Evidence for 1.1 and 2.1 could be produced through question and answer sessions with the tutor, with a signed witness statement, or though completion of a work sheet.

2.2 requires learners to consider ways in which savings can be made. To meet this criterion learners will need to include information about savings accounts and savings in daily life. Evidence may be produced in response to case studies.

For 3.1, learners must provide evidence of their own budget for a month to include all income and expenditure and the balance.

3.2 requires learners to give three ways in which they could make savings in their personal budget.

Suggested resources

Books

Guidance on financial capability in the secondary curriculum: Key Stage 3 and 4 (DCSF, 2008)

My Money PSHE Education Teacher Handbook (PFEG, 2009) via TES.co.uk/teaching-resource/my-money-pshe-education-teacher-handbook-6089524

Other resources

The following resources can be found on the Nationwide Education website, www.nationwideeducation.co.uk/linkto/personal-finance1:

Fact sheets:

FB1-FB4: Forms of Payment

FB6: Financial Services

FB8: Personal Finance Documents

FB9: Budgeting

FB10: Money Saving Tips

Work sheets:

WA2: Spending Money

WB1: Forms of Payment

WB4: Budgeting Activities

WB6: Money Throughout our Lives

Websites

www.creditaction.org.uk	National money education charity
www.islamic-banking.com	Institute of Islamic Banking and Insurance – information on the principles of Islamic finance
www.nationwideeducation.co.uk	Nationwide Education's Financial Capability programmes for ages 4 to 18+ – free resources include interactive games, fact sheets, work sheets, glossary and extension activities

www.pfeg.org	Personal Finance Education Group – provides teaching resources
www.rbsmoneysense.co.uk	MoneySense – Royal Bank of Scotland resources to support young people aged 11-18 in learning to manage their personal finances

Unit 20: Learning with Colleagues and Other Learners

Unit reference number: F/503/2840

Level: 1

Credit value: 2

Guided learning hours: 20

Unit aim

This unit looks at how the learner can learn effectively with their peers and other learners. Learners will be made aware of where learning can take place, how to record their progress in learning and that there are many different ways to learn.

Unit introduction

It is important that learners understand how to learn in an effective manner with others who are working or learning at the same level. This may be as part of a defined team working towards common objectives or in a group working on the same piece of work, or it may be working across teams of people at a similar level within an organisation. In this unit, learners will be introduced to ways in which they can work alongside their peers in a learning context. They will learn about the value of discussing their learning and aiming for learning goals. They will also come to the important understanding that people have different learning styles and, therefore, learn in different ways.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know of situations where learning can take place	1.1	Outline learning situations with co-workers	□ *Learning situations with others*: informal, e.g. small-group discussions, school or college classes, team building or development activities, day-to-day working with a team of people at the same level; formal learning situations, e.g. training courses, induction days
		1.2	Outline learning situations with other learners	□ *Learning situations with co-workers*: finding answers and solutions to tasks or problems through talking and working with co-workers, e.g. solving a problem by using ideas from several people, rather than just own ideas
2	Be able to interact with colleagues or other learners in a learning situation	2.1	Give opinions-about an aspect of own learning	□ *Express opinions or feelings about an aspect of their learning*: e.g. likes and dislikes, how useful the presentation was
		2.2	Respond appropriately to others' opinions and feelings about an aspect of learning	□ *Respond appropriately to others' opinions and feelings about an aspect of learning*: e.g. letting people have their say, not interrupting, not responding rudely, being polite and tactful
		2.3	Give and receive feedback about own learning	□ *Give and receive feedback about their learning*: feedback to other learners on how useful learning was, what could be improved; receiving feedback from others about contributions and opinions, attitudes and behaviours, whether something was successful
3	Know that people have preferred individual learning styles	3.1	Identify own preferred method of learning	□ *Methods of learning*: observing others at work, asking questions, listening to instructions or information, finding out information or doing research, attending courses, classes or training, taking a qualification, doing a practical task
		3.2	Outline how this compares to how other people prefer to learn	

Learning outcomes		Assessment criteria		Unit amplification
4	Be able to record progress in learning	4.1	State own learning goal	□ *Setting person learning* goals: identifying a personal goal that they can work towards or that is relevant to their area of work or study
		4.2	Identify the progress made towards own identified learning goal	□ *Recording progress*: recording progress (i.e. what has been learned) informally or formally; recording progress by using a learning plan, as part of an appraisal and development process
		4.3	Outline what went well and what did not go so well in own learning	
		4.4	Create a new learning plan to achieve the next learning goal	

Information for tutors

Delivery

Group or individual discussions would provide opportunities for learners to discuss a situation in which they will learn with people who are working or learning at the same level as them. Examples could include situations where they learn alongside colleagues or classmates, or with people who have the same level of experience as them, for example people they come into contact with during training courses or on induction sessions. These would be people who the learner comes into contact with, although this may not necessarily be on a day–to-day basis.

Examples of appropriate situations for learning outcome 2 could include a training course, team-building activity or development session in which the learner's peers are also present. In expressing their opinions or feelings about their learning, learners could be encouraged to consider their likes and dislikes and how they feel about different learning situations. They could ask themselves questions such as 'Am I finding it difficult or easy to participate in the activity?' or 'Is this an easy or difficult skill to learn?'.

In supporting learners to achieve learning outcome 3, tutors could encourage them to think about the way in which they learn: how do they learn best and what do they feel helps them to learn? For example, do they enjoy observing others and learning from experience or do they need a more formal structure like a training course? Do they learn best from written information or by talking to others?

Tutors could also make use of a group situation with learners discussing their individual preferred way of learning and comparing this with the others in the group. Learners could also go on to discuss the advantages and disadvantages of each learning method. Learners should understand the value of different ways of learning and that one learning method is not necessarily better than another. The emphasis is on finding out what suits the needs of individual learners.

Tutors would find it helpful to encourage learners to think about how they could record progress in their learning. Learners should be able to agree an identified learning goal with tutors/line managers that can be achieved in a learning situation with peers, such as colleagues or other learners, and discuss their progress towards this learning goal through a peer learning situation.

Assessment

Evidence for 1.1 and 1.2 could come from a group discussion that shows the individual learner's contribution, or an individual discussion with the tutor/line manager. This may take the form of a taped discussion, video evidence or other appropriate format. It may also be supported by written notes from the learner or the tutor/line manager. The learner must describe a situation in which they can learn with co-workers or other learners.

Evidence for 2.1 to 2.3 could come from either an observation of the learner by the tutor, line manager or other designated person or from written evidence. The learner needs to present the information appropriately and respond to others' views in an appropriate manner. The evidence could take the form of a witness statement, observation notes or a video of the learner's interaction with other co-workers or learners, along with supporting notes. If in a written format, evidence of the learner's communication should be provided (for example copies of emails, memos or letters), with a supporting commentary from the tutor/line manager, if appropriate.

The learner needs to respond appropriately to others' opinions and feelings, for example being polite and tactful, even if they don't agree with the opinion or feeling that was expressed. Learners should also be able to give feedback about their learning in an appropriate way. They could, for example, fill in feedback forms at a training course and provide helpful information about how to improve the course and what they found useful or not. The learner should be able to receive feedback (general or specific) from other learners or co-workers about a shared learning activity, for example whether or not the learning activity was a success, whether or not the learner made a positive contribution to the group, and whether or not the learner demonstrated to others that they understood and learned something.

Evidence for 3.1 and 3.2 could come from a group discussion that shows the individual learner's contribution, or an individual discussion with the tutor/line manager. This may take the form of a taped discussion, video evidence or other appropriate format. It may also be supported by written notes from the learner or the tutor/line manager. The learner needs to recognise their preferred method of learning and describe how this compares to those of others.

Evidence for 4.1, 4.2, 4.3 and 4.4 could come from a one-to-one discussion between the tutor/line manager and the learner, or from a small-group discussion in which the learner describes the progress they have made towards an identified goal. The learner should create a new learning plan to achieve the next learning goal. The tutor should give appropriate advice and guidance but the learner should create their own plan.

Suggested resources

Websites

www.lifecoachexpert.co.uk	Lifecoach Expert
www.mindtools.com	Provides a toolkit for developing work-related skills

Unit 21: Career Progression

Unit reference number: F/503/2837

Level: 1

Credit value: 2

Guided learning hours: 20

Unit aim

The aim of this unit is for learners to understand the importance of career progression and develop the skills to plan short-term goals for their own career development based on self-assessment of skills, qualities and experience.

Unit introduction

Successful career progression requires planning, forethought and clear understanding of your own skills, experiences and circumstances. This unit aims to help learners develop an understanding of what is required of them in order to progress in a career that interests them. Learners will also become familiar with various types of career progression resources and guidance, and the various work or study options they offer. The unit provides an opportunity to consider the importance and benefits of career progression. Learners will also find out about the practicalities of planning a stage in their career development, such as goals and timelines.

Essential resources

Learners need access to a range of career-related resources such as websites and publications, tutors and careers advisers.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Understand career progression	1.1	Explain the importance of career progression for the individual	□ *Importance of career progression*: improved quality of life, personal fulfilment, job satisfaction, financial benefits, teaching or training others, inspiring or helping others, ongoing learning and development for self
		1.2	Describe the role of work and study in career progression	□ *How work and study help career progression*: potential for pay rise or improvement in employment prospects; could lead to new job role; gain promotion; work, e.g. improve skills, learn new skills, gain experience; study, e.g. gain qualifications, extend knowledge
2	Be able to assess skills and qualities for career progression	2.1	Outline personal skills, qualities and experience relevant to career progression	□ *Skills and qualities*: interests, formal and informal experience, training and qualifications, hobbies, personal strengths, qualities, abilities and talents □ *Skills and qualities relevant to career progression*: personal skills and qualities, e.g. self-motivation, flexibility, determination, goal setting; ability or desire to learn new skills and information
		2.2	Identify areas of work or study suited to own personal skills, qualities or experience	□ *Areas of work or study suited to personal skills, qualities or experience*: linking personal skills, competences, experience, qualities and interests to specific areas of work or study, e.g. experience in caring for young children or a disabled relative could lead to a career in personal or social care, interest in computers might suit enrolment in IT course, confidence in talking to people could fit a role in sales or retail

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to plan short-term goals for career progression	3.1	Identify sources for information and guidance for own career progression	□ *Information and guidance related to career progression*: information/guidance, e.g. college, school or community-based careers services, jobcentres, Learndirect, libraries, careers and jobs sections in local newspapers, magazines and websites, personal development and career development magazines and websites, work placements, progress files, vocational specialists websites such as Careers England, Careers Wales, Careers Scotland, Careers Ireland, Sector Skills Councils and a range of BBC links to *Blast, Go Get it, One Life — Your World*: *Work and Future*
		3.2	Identify career and course options from sources of information and guidance appropriate to own skills, qualities and experiences	
		3.3	Identify short-term goals that will help progress own career	□ *Plan the next stage in their career progression*: setting short-term goals; the role of self in career planning, e.g. mindset, personal behaviours and qualities; ensuring goals are appropriate; the role of others in career progression, e.g. family, friends, tutors, employers; realistic timelines; resources, e.g. financial support, childcare
		3.4	Identify a timeline for achieving the short-term career progression goals	
		3.5	Identify resources for achieving the short-term career progression goals	

Information for tutors

Delivery

Tutorial sessions could be a useful scenario for delivery of this unit. It could also be integrated into a vocational qualification or delivered in a work-based setting.

It would be helpful to make explicit to learners the skills associated with career progression, employability and the general concept of lifelong learning. Learners should understand that the term 'career progression' encompasses both work and study experience and opportunities. The idea of motivation (especially self-motivation) and its impact on learning and development should be featured in the learning programme. This is especially relevant for learning outcome 2 and 3. Tutors/line managers might find it helpful to direct learners to case studies, documentaries or articles about how successful people have been motivated to learn, develop and succeed in their particular field of study or occupation. Tips and sources of support for motivation — how to get motivated and stay motivated — could be explored.

Individual learners should be encouraged to present their career progression goals in a format that best suits their individual learning style or styles, as the emphasis is on producing a career progression plan that can be applied to the learner's own circumstances. Examples could include presentations, diagrams or posters.

Delivery of the unit could include both real and imagined scenarios relating to work, study and career development. 'Real' situations might include investigating the opportunities and processes for career progression in a particular workplace. This could form part of an induction programme or personal review process.

Learners may listen to visiting speakers or talk to relevant individuals currently working in a specific career in order to obtain useful information. Tutors/line managers could also arrange access to resources that promote a positive approach to learning and development.

Assessment

To meet 1.1, the learner needs to give two ways in which career progression can benefit individuals. For 1.2, the learner needs to briefly describe how work and study help career progression. These criteria may be evidenced through group discussions recorded by the tutor or line manager for verification purposes

For 2.1, the learner needs to include information about their personal skills, qualities and experience relevant to career progression. This need to include skills they have developed through their previous work or learning. This may be evidenced by the learner completing a simple self-assessment pro forma. Alternative methods of evidencing can be used, for example posters, charts or presentations.

For 2.2, the learner needs to use the information from 2.1 to consider two areas of work or study that may be suitable for them. This may be evidenced by a one-to-one tutorial or discussion recorded by the tutor/line manager for verification purposes.

For 3.1, the learner needs to identify at least three sources of information about job roles, study opportunities or career paths in a sector relevant to the choices made in 2.2. A range of resources may be provided for the learner, but the learner must identify the sources of information independently.

For 3.2, learners need to match the skills and qualifications needed for two possible career or course options to their own skills, qualities and experience.

For 3.3, 3.4 and 3.5, the learner needs to set at least three realistic short-term goals in the form of a basic development plan for the next stage in their career development, including a timeline and resources. The learner will receive guidance about what sort of goals would be appropriate for their circumstances through group discussions, discussions with a tutor or careers counsellor, or access to online and published career guidance resources. The learner must, however, be able to choose and express their career progression goals independently of others. The goals, timelines and resources associated with the plan should be confirmed by the learner's adviser/tutor/supervisor.

Suggested resources

Websites

www.apprenticeships.org.uk	Apprenticeship search website
http://jobsearchdirect.gov.uk	Advice on creating a CV, job profile
www.cascaid.co.uk	Careers guidance software maker
www.gov.uk/volunteering	Advice on finding a volunteer placement
www.gapyear.com	Year-out planning
www.volunteering.org.uk/	Advice on volunteering
www.work-experience.org/ncwe.rd/index.jsp	National Council for Work Experience

Unit 22: Self-Management Skills

Unit reference number: T/503/2835

Level: 1

Credit value: 2

Guided learning hours: 20

Unit aim

The aim of this unit is for learners to understand the importance of self-management for employees and to develop time management skills for work.

Unit introduction

Employees need to be able to manage themselves appropriately in order to stay safe and healthy at work and to make a positive contribution to the workplace. This unit focuses on the importance for employees of being able to manage themselves in the workplace.

Learners are asked to demonstrate time management skills and carry out an evaluation of their performance. Areas in which learners will find out more about the importance of self-management include prioritising time and tasks during the working day, being mindful of daily objectives at work and taking breaks at appropriate times.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Understand self-management for work	1.1	Outline reasons for self-management in the workplace	□ *Self-management in the workplace:* reasons, e.g. contributing to own health and wellbeing build self-esteem and confidence, better working relationships with peers and other colleagues, appreciated more by others, can perform work more comfortably and easily
		1.2	Identify areas which need time management in the workplace	□ *Areas which require time management*: e.g. daily tasks and activities, weekly tasks and activities, longer-term tasks and activities, lunch-breaks and tea-breaks, starting and ending tasks, working individually on a task or activity, working with others on a task or activity
		1.3	Explain reasons for taking breaks during the working day	□ *Reasons for taking breaks*: benefits of regular breaks, e.g. enhances personal health and wellbeing, able to do job more effectively, improves concentration, accidents less likely; opportunity to speak informally to other colleagues during a tea-break or lunch-break
2	Be able to demonstrate time management skills for work	2.1	Carry out tasks and activities in an appropriate prioritised order	□ *Time management and taking breaks*: planning time for tasks and activities, e.g. prioritising most important activities and allocating an appropriate amount of time to do them; understanding that tasks and activities should be prioritised according to given daily objectives; allow time for taking breaks, e.g. lunch-break, tea-breaks, breaks for health and wellbeing purposes
		2.2	Carry out tasks and activities to achieve agreed objectives for a working day	
		2.3	Take breaks during the working day	

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to assess own time management skills	3.1	Outline aspects of time management which went well when carrying out the tasks and activities for the working day	□ *Review of performance*: deciding whether or not effective time management skills were demonstrated during the working day; talking about what went well and what did not go so well, e.g. remembered to take regular breaks from looking at the computer screen, but forgot to check time during lunch-break so returned late to desk
		3.2	Outline aspects of time management which were less successful	

Information for tutors

Delivery

This unit may be delivered in the workplace, in the context of a work placement or volunteering commitment, or in a simulated situation in a school or college. It is expected that the self-management skills listed are those which need to be demonstrated by learners within an educational context as well as by employees, therefore learners will likely already be aware of a range of self-management skills in a general context.

Tutors/line managers could use copies of organisational procedures for different types of organisation as appropriate, for example school or college organisational procedures for staff and/or learners relating to self-management (or if in the workplace, copies of the procedures for that workplace). Relevant training or developmental courses or exercises relating to self-management (for example time management, 'mock' work tasks and 'in-tray exercises', health and safety, personal management) are also useful resources.

Learning outcome 1 could be delivered through group discussion or through discussion between the learner and their line manager or another appropriate person familiar to the learner. Tutors/line managers could give the group or individual learner with prompts and facilitate the discussion to help learners understand the importance of managing themselves and to start to think about the benefits of doing this. Learners could create a poster or leaflet to show their competence in achieving learning outcome 1. Learners should be encouraged to understand how they contribute to their own health and wellbeing in managing their time effectively, and why it is important that they look after themselves.

Tutors may wish to use organisational procedures and health and safety policies as a background to show learners the types of responsibilities employees have for their health and wellbeing and also the general ways in which the workplace can support employees in this.

Learning outcome 2 could be delivered in a variety of ways. If in a work situation, learners could carry out their normal daily activities while being observed by their supervisor, line manager or another responsible person. In a simulated situation, learners could be given (or agree with their tutor) a scenario for the workplace which enables them to demonstrate self-management skills. Tutors may wish to spend time with learners in preparation for the demonstration, for example carrying out a simulated activity in which the tutor, supervisor, line manager or other observer provides help or support to the learner by pointing out, for example, health and safety issues that the learner may have missed. They may also wish to discuss and agree the activities that the learner will demonstrate, in advance of the demonstration.

Learners must be comfortable with the expectations of the demonstration and the way in which they will be assessed, for example if it is an observation, then they should be comfortable with the presence of an observer who may not necessarily offer advice and support during the assessment.

Learning outcome 3 could be delivered through a one-to-one discussion between the tutor or line manager and the learner. Learners and tutors/line managers would discuss how the learner did in their demonstration and learners would be able to discuss what they felt went well.

Assessment

For 1.1, the learner needs to give two reasons why employees need to manage themselves in the workplace.

For 1.2 and 1.3, the learner must identify at least two self-management skills related to time management. They should also be able to describe why taking appropriate breaks is important. The learner should be able to set their self-management skills clearly in a work-related context. Evidence to support this can be either in a written format, for example records of group or individual discussion (written by the tutor or learner with sign-off from the tutor) or video/audio recording.

For 2.1, 2.2 and 2.3, the learner must demonstrate self-management skills within the workplace. The focus is on time management as mentioned above and may be carried out as part of a real working day or as a simulated activity. The learner must be able to demonstrate that they can carry out more than one activity (for example, managing a list of tasks and taking a break for health and safety reasons). The learner should show how they prioritise their tasks and activities to achieve agreed daily objectives. These daily objectives should be agreed in advance of the demonstration. The learner should also demonstrate how to take appropriate breaks during their working day. The learner must be able to demonstrate that they understand what they are doing, although tutors and others may support and prompt them.

The demonstration should be observed either by the tutor or another person designated to assess the learner (for example a line manager or supervisor). The observation should form the basis of a discussion with the learner about their performance for 2.1, 2.2 and 2.3. This observation can take the form of a written statement by the tutor or line manager (which would support good practice for appraisal and review in the workplace), or a video with supporting commentary or statement from the tutor or line manager.

For 3.1 and 3.2, the learner must carry out a review of their performance in which they identify at least one aspect that went well (for example being able to meet all their daily objectives) and one aspect that did not go so well (for example not planning in any time for reading emails first thing in the morning). It is appropriate for the tutor, line manager or a colleague to offer constructive criticism and for learners to include this feedback in their review of performance (if they accept it). However, the learner's self-evaluation should represent their own views on their performance and should be recorded independently.

Evidence to support 3.1and 3.2 can be either written, for example through written statements from the learner on the review of their performance and/or supporting statements from the tutor, line manager or other person involved in the discussion and review, or presented through a video or taped discussion.

Written statements by the learner do not have to be lengthy and can be discussed and agreed with the tutor/line manager in advance.

Suggested resources

Websites

www.lifecoachexpert.co.uk	Lifecoach Expert
www.monster.co.uk	Advice on creating CV, job searches
www.worksmart.org.uk/career	Advice on finding a job, progressing career

Unit 23: Working in a Team

Unit reference number: R/503/2843

Level: 1

Credit value: 3

Guided learning hours: 30

Unit aim

This unit looks at how learners can be effective members of a team. Learners will identify the skills, roles and responsibilities needed to complete the team task and match their skills accordingly. They will take part in team tasks and review their contribution.

Unit introduction

Since very few people work in complete isolation in the workplace, most employers seek employees who are able to work effectively with others in a team or group setting. An effective team depends on the cooperation and skills of all team members.

This unit helps learners to understand how they can contribute to the success of a team, based on an understanding of their own strengths, skills and experiences, as well as the nature of the task at hand.

Additionally, learners will develop an understanding of the key behaviours and attitudes required in order to communicate and cooperate with others in a team. They will also learn about the roles and responsibilities of all team members by completing a team task. Learners will consider their effectiveness as team members and identify areas for improvement.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know that effective teamwork requires team members to behave in certain ways	1.1	Outline positive behaviours necessary for teamwork	□ *Behaviours for effective teamwork*: encouraging, considerate, ability to listen, respectful, tolerant, patient, flexible, loyal, ability to accept constructive criticism, able to motivate others
2	Know how to contribute to a team task	2.1	Outline own strengths, skills and experiences that might be relevant to team task	□ *Strengths, skills and experiences*: organising skills; practical skills, e.g. computer literate, photography skills; previous experiences, e.g. experience of planning an event; communication skills, e.g. multi-lingual, skilled writer; interpersonal skills, e.g. good listener, confident, punctual, reliable, patient
		2.2	Identify team skills needed to complete team task	□ *Aspects of a task they could do well, based on identified strengths, skills and experience*: e.g. good spelling and language skills suited to task of proofreading written work produced by team, organising skills suited to drawing up timeline for completion of the team project
		2.3	Outline how own strengths and skills could match the needs of the team task	

Learning outcomes		Assessment criteria		Unit amplification
3	Know the roles and responsibilities of team members (including their own) in relation to a given task	3.1	Identify what the task is about and what the team is working to achieve	□ *What team is working to achieve*: aim or aims of the team's task, assignment or project; goals, deadlines, timelines; particular quality or standard of work required
		3.2	Identify own role and responsibilities and those of others in the team	□ *Responsibilities within the team*: own individual roles and responsibilities agreed with whole team; individual roles and responsibilities of other team members
		3.3	Outline how own role contributes to the work of the team as a whole	□ *Contribution of own role to work of whole team*: how own role affects roles of others in the team; how own role affects overall team success
4	Be able to work positively as a member of a team	4.1	Give examples of listening to the ideas and suggestions of others	□ *Listen to the ideas and suggestions of others*: paying attention to and showing respect for the advice, ideas, suggestions or opinions put forward by others, e.g. by not interrupting, asking questions to clarify what was said
		4.2	Give ideas and suggestions as to how the team might complete their task	□ *Give ideas and suggestions as to how the team might complete their task*: participating in group discussions, problem-solving or 'thoughtshower' sessions, finding out information and reporting back to the group
		4.3	Give examples of offering help or support to other team members	□ *Offer help to other team members*: e.g. offer to help other team members complete their task, volunteer to take on the task of a team member who is absent
		4.4	Give examples of accepting the help or advice of others	□ *Accept help or advice from other team members*: try out ideas or suggestions put forward by others; listen respectfully to advice from another team member; accept help from other team members in order to get individual task finished on time
		4.5	Complete the aspects of the allocated task, in line with the brief	□ *Complete own task in line with the given brief*: complete task to required standard and within stipulated timeframe

Learning outcomes		Assessment criteria		Unit amplification
5	Be able to review own performance as a member of a team	5.1	Identify which positive teamworking behaviours were demonstrated by self in undertaking the task	□ *Positive teamworking behaviours demonstrated*: listened to opinions of others, responded politely to questions, satisfactorily completed the individual task assigned to them, helped others carry out their tasks or responsibilities, offered suggestions as to how the team's goals could be achieved, accepted advice from others, learner's own contribution contributed to success of whole task
		5.2	Identify own teamworking skills that could be improved	□ *Identify teamworking skills that could be improved*: be more patient with other team members, don't interrupt when others are making suggestions, pay more attention to timings allocated for completion of own individual task

Information for tutors

Delivery

The emphasis in this unit is on developing the learner's knowledge and understanding of teamwork through a practical teamworking task.

In order to understand the positive behaviours necessary for effective teamwork in learning outcome 1, it would be useful for learners to compare two different teamworking scenarios. This could be done in small groups. A question-and-answer session could determine the positive behaviours. Key words could be collated on a board or flipchart. Teams could work to design a poster or presentation which identifies positive behaviour. The posters or presentations could be displayed in the class or working area for learners to refer to during the rest of the unit. Alternatively, line managers could discuss with individual learners their impressions of different teamworking scenarios within the workplace. Learners could obtain input from colleagues regarding their ideas on positive behaviours required for teamwork.

Learning outcomes 2, 3, 4 and 5 require the identification of team and individual tasks which would enable the participation of all group members. Learners could be involved in selecting the group task. Teams could be made up of around 4-7 people. In teams, learners could discuss possibilities for tasks and then report back to the rest of the group. Learners could develop a whole-group discussion to decide which tasks are manageable, achievable and match the skills and interests of the team members in 'What if?' scenarios.

For learning outcome 2, learners could make a list of their own strengths, skills and experiences and match them to individual tasks in the chosen group task.

For learning outcome 3, learners could work with team members for the group task to develop a mind map or flow chart-type diagram, using prompts and question-and-answer sessions until a picture of the whole task and the individual roles and responsibilities of each member is complete. Learners could present their ideas about how their own role contributes to the work of the team to the rest of the group.

Learners need to implement the agreed team task for learning outcome 4. They could work in groups to devise a checklist to log their involvement in the task.

Learners should be encouraged to analyse their own performance in the team task for learning outcome 5, using evidence from their checklist. Individual learners should concentrate on their behaviour and skills as a member of the team rather than how well the outcome was achieved. Ways for learners to develop teamworking skills could be explored through tutorials, small-group discussions or discussions with a line manager or supervisor.

Assessment

For 1.1, the learner must outline at least two different positive behaviours that are needed for teamwork to be effective. This information could be evidenced in a number of different ways, for example a leaflet, presentation or poster.

For 2.1, 2.2, and 2.3 the learner need to refer to the identified group task when identifying their strengths, skills and experiences and how these may help them complete aspects of the task. A chart could be suitable evidence for these criteria. The learner needs to make the link between their strengths, skills and experiences and the group task. Alternative methods of evidencing learning may be used.

The evidence required for 3.1, 3.2 and 3.3 could be combined into one task. The information could be evidenced in a number of ways, such as PowerPoint slides, a poster or through one-to-one discussion with the tutor or line manager. The learner needs to refer to the chosen task and identify what the task is about and its intended outcome, and the role and responsibilities of all members of the team for 3.1 and 3.2.

For 3.3, the learner needs to outline at least two reasons why their own role is necessary for the successful completion of the group task.

The evidence required for 4.1, 4.2, 4.3, 4.4 and 4.5 may be provided in a logbook completed by the learner during the task. The logbook may take a variety of formats, depending on the needs of individual learners. The logbook needs to be verified by the tutor/line manager. Alternative methods of evidencing may be used, for example a witness statement or observation.

For 5.1, the learner needs to identify details about which positive teamworking behaviours (identified in 1.1) they demonstrated during the completion of the task. Giving two ways of improving their teamworking skills would provide the evidence for 5.2. Both these criteria could be assessed through one-to-one discussion with the tutor/line manager. Responses should be recorded for verification purposes.

Suggested resources

Websites

www.lifecoachexpert.co.uk	Lifecoach Expert
www.projectsmart.co.uk/team-building.html	Advice on team building
www.worksmart.org.uk/career	Advice on progressing career

Unit 24: Carrying out an Individual Project

Unit reference number: K/504/9146

Level: 1

Credit value: 3

Guided learning hours: 30

Unit aim

The aim of this unit is for learners to identify, research and discuss a project area related to their chosen vocational sector, compiling all their findings into a report.

Unit introduction

This unit is about learners investigating an area that they are interested in, related to their chosen vocational sector. It is expected that learners will choose an aspect of the sectors to research. They will be given the opportunity to choose their own focus for the project and then undertake the research needed to put together a report on this topic.

Learners will be able to choose from a range of topics within their chosen vocational area. They will then be shown how to set aims for the project, so that they can really focus on relevant and interesting ideas. Learners will then be able to undertake relevant research, accessing a range of information sources that will give them information about the project area.

Once learners have gathered their research they will be shown how to relate it to the project aims they set themselves and how to compile their work into a report, including all of the relevant sections.

This is a practical unit that is led by the learner and their interests. It allows them to develop skills that are essential for working in many sectors, including time management, self-discipline in keeping to deadlines that they set themselves and independent enquiry through the undertaking of research.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Be able to select an appropriate project topic	1.1	Produce a proposal for a project related to chosen vocational area	□ *Identification of project topic*: investigation into ideas for project, methods of ensuring that project is viable including availability of information and secondary research, methods of rejecting invalid project ideas; ideas for project, e.g. access to leisure centres for people with mobility difficulties, day care provision for young children, analysis of menus in care homes for the elderly, access to public transport for people who use a wheelchair, social activities for people with hearing impairment, local access to national health service dentists, local provision for pre-school care and education, local play facilities for children, venues for outings for children, toys to encourage learning, prevention of obesity in children, dental health, breast feeding versus formula feeding, cost of equipment for a new baby
		1.2	Set aims for the project	□ *Setting aims*: identifying appropriate and achievable aims, ensuring aims are realistic, positive and negative examples of aims, SMART goal setting
2	Be able to investigate the project area	2.1	Plan the project using appropriate methods of research	□ *Project planning*: scheduling actions to achieve project; time-management skills, planning time for tasks and activities including prioritising the most important activities and allocating an appropriate amount of time to do them; understanding that tasks and activities should be prioritised according to given daily objectives
		2.2	Carry out research into the project area	□ *Carrying out research*: methods of secondary research available, i.e. books, journals, reports, web-based research; methods used to ensure that the research is valid and appropriate to the project aim; primary research and methods that can be used including questionnaires, interviews and surveys; aspects to be considered if undertaking primary research, i.e. confidentiality and appropriate behaviour

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to produce a project report	3.1	Present a project report including: • introduction • aims • findings • discussion • conclusion	□ *Guidelines in structuring a report*: relevant sections of a report including title page, acknowledgements, abstract, methodology, findings, discussion and bibliography; use of pictures and graphs in a report; methods used to ensure aims are clearly met, importance of proof reading a report

Information for tutors

Delivery

This unit enables learners to integrate and apply knowledge from many other units across the specification. It is important that the research topic is of personal interest to the learner and that the learner possesses or acquires a knowledge and understanding of the topic and related areas.

Although a major part of the delivery focuses on the learner practically conducting their research project, the unit must be supported by theoretical input from the tutor. Learners must understand concepts related to the research proposal and design as well as research skills, techniques and methodologies before they can consider, explore and produce a valid research proposal. At the research proposal stage, the tutor may, if necessary, provide support to help shape the proposal and provide direction to the learner to ensure an original and valid research proposal is presented. A PowerPoint development of a poster or a video could be used as more creative methods of presenting their report.

The research proposal will require learners to adopt an investigative approach and will include a statement of the area of research and background factors related to it. Tutors should direct learners to consider at this stage: 'Why is the proposed project worthwhile? Who would the results be useful to? What does the literature say? What would the project contribute to the chosen vocational area? If support from the tutor is required at the research proposal stage, it must be provided in order to ensure the proposal and design are valid. Once the area to be investigated has been established by the learner and agreed with the tutor, the learner may commence their full research proposal. The learner will then be able to move onto their research project independently, or with support.

Possible research project titles include:

- local daycare provision for young children
- meeting nutritional needs of the elderly
- access to public transport or public buildings for people with mobility difficulties
- play facilities for children
- suitable outings for children
- toys to encourage learning
- preventing obesity in children.

Outline learning plan

The outline learning plan has been included in this unit as guidance.

Topic and suggested assignments/activities
Be able to select an appropriate project topic Introduction to unit and programme of learning. Tutor-led discussion on how to select appropriate topics for a project in the chosen vocational area. Learners undertake investigation into possible project areas. Learners draft aims for the chosen project.
Be able to investigate the project area Learners prepare a project plan to ensure the project is completed. Learners investigate research methods available. Learners undertake appropriate research into the project. Learners examine the research and consider how to discuss this within their project.
Be able to produce a project report Learners identify the sections required in a project report. Assessment: series of one-to-one meetings with tutor to discuss proposal and set aims, plan project and carry out research. Learners produce reports with sections indicated in assessment criterion 3.1 (learning outcomes 1, 2 and 3). Review own performance and their completed project.
Assessment debrief and feedback.

Assessment

To achieve criteria 1.1 and 1.2, the learner must produce and set aims for a proposal for a project related to the chosen vocational area, in this case creative arts and media. In order to do this successfully, learners may or may not require support from the tutor. The amount of support that they require should not influence their success. The aims of the project should be clearly stated and should originate from the learner.

For criteria 2.1 and 2.2, learners need to plan and carry out the research as detailed in their research project. They should be given the opportunity to carry out this research, and will require access to the necessary resources.

Criterion 3.1 requires learners to gather information from their research and compile this into the report as described in the unit and the assessment criteria. It is important that learners produce a report that clearly introduces the project, showing how and why the aims have been set. The findings of the research will then be included in the report along with a discussion as to what learners have found out about the area they have researched. The final section of the report will define how the research has met the aims that learners have set for themselves.

Learners may require support in the setting of the aims and the compilation of the report, which is appropriate for the tutor to provide.

Suggested resources

Books

Roots J, Tann L and Winter L **–** *BTEC Entry 3/Level 1 Health and Social Care Student Book* (Pearson, 2010) ISBN 9781846909191

Other

Roots J, Tann L and Winter L – BTEC Entry 3/Level 1 Health and Social Care Teaching Book and Resource Disk (Pearson, 2010) ISBN 9781846909368

Websites

www.gov.uk/government/organisations/department-of-health	Department of Health
www.gov.uk	Source of advice on public services
www.skillsforcare.org.uk	Skills for Care and Development - the Sector Skills Council for the social care sector – advice for those working in the social care sector
www.skillsforhealth.org.uk	Skills for Health – the Sector Skills Council for the health sector – advice for those working in the health-care sector

Unit 25: Career Progression

Unit reference number: J/503/2869

Level: 2

Credit value: 2

Guided learning hours: 20

Unit aim

The aim of this unit is for learners to develop the understanding and skills to develop a plan to progress their career based on assessment of their own qualities, skills and experience.

Unit introduction

In this unit, learners will develop an understanding of the connection between their own skills, experience and aspirations and possible career opportunities, so that they are able to take a proactive approach to career progression. Learners will locate potential opportunities, information and resources and evaluate them in terms of relevance to their career progression. They will explore the ongoing nature of career development and also develop a career progression plan.

Essential resources

Learners need access to a range of career-related resources such as websites, publications, tutors and careers advisers.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Understand career progression	1.1	Explain the career benefits of work or study opportunities	□ *Benefits of different work or study opportunities*: various forms of work and study opportunities, e.g. part-time studies or courses, courses or studies subsidised or paid for by an employer, full-time studies/course, online courses, promotional opportunities at work, training and personal development opportunities, work shadowing and cross-company projects; benefits of work or study opportunities, e.g. learn new skills, gain a qualification, improve status or reputation, fit in with lifestyle, fit in with schedule, fit in with childcare responsibilities, potential for pay rise or improvement in employment prospects
		1.2	Explain how one job role or stage of career development may lead to another	□ *Stages in career development*: ongoing nature of career progression, building skills and knowledge as an ongoing process, moving up through organisational structure, increasing understanding of a task or skill from basic to more advanced level, learning new skill could lead to new job role, taking on new responsibilities voluntarily could lead to paid promotion

Learning outcomes		Assessment criteria		Unit amplification
2	Be able to review skills, qualities and experience for career progression	2.1	Describe own skills, qualities and experience	□ *Personal skills, qualities and experience*: interests, work, study and other experience, personal strengths, learned and natural talents, skills and personality
		2.2	Explain how own personal qualities, skills and experience apply to areas of work or learning	□ *Suitability of qualities, skills and experience to areas of work or learning*: e.g. preference for learning in a group situation would suit enrolling on course at college rather than doing an online course from home, physical fitness and strength could suit work on a construction site rather than a desk-based job, experience in caring for a child with disabilities would suit role as a helper at school for children with disabilities rather than working at a call centre
		2.3	Identify area of work or learning for own career progression	
3	Be able to plan career progression	3.1	Be able to plan career progression	□ *Information and guidance related to career progression: e.g.* college, school or community-based careers services, career advisers, job centres, Learndirect, libraries, *Careers and Jobs* sections in local newspapers and magazines, personal development and career development magazines and websites, industry magazines, websites or publications, employment and careers websites, HR professionals, work placement; using relevant source depending on type of information sought, e.g. Learndirect useful for learners wanting to undertake online courses, local newspapers useful for finding jobs in local area; deciding whether job information or course information is relevant, e.g. part-time course in business enterprise for employed person intending to set up their own business, job-share role for parent wishing to combine a job with childcare responsibilities, voluntary work at local charity shop for a person planning to progress to paid work in the retail sector □ *Relating information to skills, qualities, experience and career aspirations:* comparing qualities required to self-assessment; level of experience required; skills required, e.g. qualifications, practical skills; identifying next steps for career planning
		3.2	Explain how information for career progression relates to own skills, qualities, experience and career aspirations	

Learning outcomes		Assessment criteria		Unit amplification
		3.3	Produce a career progression plan, including information that relates to own skills, experience and career aspirations	□ *Career progression plan*: different ways of recording career plans, e.g. electronic, handwritten, charts, diagrams, templates or forms provided by workplace or place of learning; types of goals (short term, medium term, long term); setting goals in plan over appropriate timeframes; using feedback and guidance from appropriate sources in planning career progress, e.g. tutor, teacher, employer, people in similar careers, career adviser, family, friends; timeline, e.g. targets set in weeks, months, years for achieving goals
		3.4	Explain the timeline for the career plan	□ *Timeline and resources*: realistic timelines, e.g. relevant to personal circumstances, learning style; resources, e.g. money to pay for training course, support from family or friends in looking after child so parent can take on part-time work, develop new skills or knowledge needed to qualify for promotion at work
		3.5	Identify resources needed to support the career progression plan	
		3.6	Explain how the career progression plan will be reviewed	□ *Reviewing career progression plan*: deciding appropriate time(s) to review career progression plan; revising original career progression plan if necessary; using feedback and guidance from appropriate sources in reviewing career progression plan, e.g. tutor, teacher, employer, people in similar careers, career adviser, family, friends

Information for tutors

Delivery

Tutorial sessions would be a useful method to deliver this unit. It could also be integrated into a vocational qualification or delivered in a work-based setting.

Learners should be encouraged to view their learning as the beginning of a lifetime of learning.

It would help to focus delivery of the unit on the learner exploring their own skills, qualities and experience, and how they link to career progression. Tutors could discuss the importance of having aspirations and goals and the role played by factors such as a positive self-image and attitude, adaptability and the ability to cope with change.

The opportunity to draw on real-life scenarios is inherent in each learning outcome.

Learners could undertake investigation of their skills and qualities through the use of paper or electronic self-assessment tools. It would be helpful to use a range of exercises or activities that enable learners to analyse their strengths, weaknesses, attitudes, qualities, for example worksheets, team activities and basic personality profile tools. In group discussions, learners could consider the importance of personal skills and qualities that enable career progression, for example motivation, determination, flexibility and the desire/ability to learn new skills.

Strengths and skills gaps should be identified so that individuals may become aware of their development needs and recognise the advantage of relevant work or study opportunities. It is important that learners review their interests, aptitudes and ambitions for the future.

The use of presentations, interviews, case studies, visiting speakers and online careers resources that promote a positive approach to career progression are recommended. Learners could consult a wide variety of resources such as the internet, local and national publications, careers advisers, job centres and people from the world of work.

Assessment

For 1.1, the learner needs to explain how two different work or study opportunities benefit career progression. Evidence for this could be based on career progression using examples from real organisations or individuals. Alternatively, the learner could explain career progression using an imagined career profile.

To meet 1.2, the learner will need to outline how one stated job role or career stage can help progression to the next stage of a career.

For 2.1, the learner needs to analyse their previous work or learning in terms of their personal skills and qualities. This can be achieved through the use of paper or electronic self-assessment tools.

For 2.2, the learner needs to give three reasons why their own qualities, experience and skills, analysed in 2.1, are suited to two areas of work or learning. The learner can be given guidance by the tutor/line manager in selecting the areas of work or learning to discuss but must show independence in putting forward the three reasons required for 2.2.

For 2.3, the learner needs to identify an area of work or learning for their own career progression.

For 3.1, the learner must include information relevant to career progression in a stated area of work or learning from three different sources. This can include leaflets, downloads from websites, articles from publications or evidence from interviews with career advisers.

3.2 requires the learner to consider how they will use the information gathered for 3.1 to plan their own career progression, linking the information to personal skills, qualities, experience and ambitions. The learner will need to understand the skills and qualifications needed for their preferred career path.

For the career progression plan in 3.3, the tutor/line manager could suggest a number of possible models for the learner to consider. The learner must, however, select a method of presenting their career progression plan independently. The learner should produce a career progression plan in a format that reflects their preferred style of learning, as the emphasis is on producing a career progression plan that can be applied practically in the learner's own situation. Where the learner is in employment, it may be appropriate to use relevant career planning documents from their workplace. Where the learner does not have access to the workplace, appropriate examples of documents from the college, school or place of learning could be used. The career progression plan should include information collected for 3.2, in order to demonstrate how the plan relates to the learner's own skills, qualities, experience and career aspirations.

To meet 3.4, the learner needs to explain how the timeline in the career plan is realistic and, for 3.5, include information about resources they need to support their career progression plan, for example 'I need to complete the course part time over two years as I will need to have a job during the course'.

For 3.6, the learner needs to include information about two ways in which they could review their career progression plan.

The goals and timeline in the career progression plan should be confirmed by a tutor, line manager or other appropriate person. The plan should include basic suggestions on how the progress and appropriateness of the plan could be reviewed on an ongoing basis.

Suggested resources

Websites

www.gov.uk/browse/education	Advice on apprenticeships and training
www.learndirect.co.uk	Skills training services
www.monster.co.uk	Advice on career progression

Unit 26: Working in a Team

Unit reference number: Y/503/2875

Level: 2

Credit value: 3

Guided learning hours: 30

Unit aim

This unit gives learners the skills and knowledge to recognise the strengths and weaknesses of team members, work as part of a team and assess the effectiveness of the team.

Unit introduction

Teamworking skills are extremely valuable in the workplace and are also transferable to other areas of life. In this unit, learners will consider the advantages of teamwork and why team members need varied skills and strengths to complete tasks successfully. Learners will gain knowledge of how to work positively as a team member by contributing to a team task. Additionally, learners will develop an understanding of how to reflect on their own and the team's effectiveness in completing the task. Learners will consider their individual contribution to the team's performance and areas where the team could improve their teamworking skills.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Understand the advantages and disadvantages of having a team complete a task	1.1	Assess advantages of having a team complete a task	□ *Advantages of teamwork:* employee/learner strengths and weakness can be balanced; team members motivate/encourage/support each other; skills of all members are used; responsibility is shared; team members feel a sense of belonging; individuals feel valued
		1.2	Assess disadvantages of having a team complete a task	□ *Disadvantages of teamwork:* needs careful planning; takes time to plan and set up; needs agreement or cooperation of all members; task can be better completed by one person; task may require directing by a leader
2	Understand the need for a team to work to an agreed code of conduct	2.1	Create a code of conduct for effective teamwork	□ *Code of conduct for teamwork:* e.g. every member should contribute; listen to views of all team members; value contributions of others; accept constructive criticism; consult with other team members; make decisions as a group; follow group decisions; carry out agreed responsibilities
		2.2	Explain likely consequences of team members not following a code of conduct	□ *Consequences of team members not following code of conduct:* team task not completed on time, team task not completed correctly or to appropriate standard, conflict between team members, confusion about individual tasks and responsibilities, team members feel let down, team members feel reluctant or anxious about working or learning with other team members in future

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to recognise the different strengths, skills and experiences different people bring to a team	3.1	Assess own strengths, skills and experiences, as relevant to a task being undertaken by a team	□ *Teamwork skills, strengths and experiences:* practical skills, e.g. ability to cook, paint, use a computer, good with numbers and money; interpersonal skills, e.g. patient, friendly, enthusiastic, loyal; communication skills, e.g. confident speaker, good listener; motivational skills, e.g. good at encouraging or helping others, organisational skills
		3.2	Assess relevant strengths, skills and experiences that other members bring to a particular team	
4	Be able to allocate roles and responsibilities within the team in relation to a given task	4.1	Agree with other team members the roles and responsibilities of each member of the team	□ *Agree roles and responsibilities:* on the basis of objectives of team task; timescale/deadline for completion; awareness of skills and strengths of all team members; matching skills and strengths of team members to individual tasks, e.g. confident speaker suited to leading verbal presentation, experience in using internet suited to searching for information online
		4.2	Describe how each role contributes to the team's objectives and the completion of the team task	
5	Be able to work positively as a member of a team	5.1	Identify relevant ideas and suggestions from others that will enable the team to complete the task	□ *Respect ideas and suggestions of others:* listen politely to ideas and suggestions of others, don't interrupt someone who is explaining their idea or suggestion, thank other team members for their ideas or suggestions
		5.2	Devise a team plan to solve a problem when working with others	□ *Team task plan:* including activities, ways to speed up time needed to achieve task, ways to improve quality of the item the team is making, division of labour, timelines, expected outcomes
		5.3	Make a contribution to a team by sharing skills and knowledge	

Learning outcomes		Assessment criteria		Unit amplification
		5.4	Offer help, support or advice to team members when appropriate	□ *Give help, support or advice to others:* offer to help team member who is having difficulty carrying out their task, suggest a better way of doing something, agree to take on an extra task whilst fellow team member is absent
		5.5	Respond positively to advice and constructive criticism	□ *Respond positively to advice or constructive criticism:* value of the advice or constructive criticism from others, e.g. creates awareness of personal strengths and weaknesses, creates awareness of quality of work and areas for improvement; maintain positive atmosphere and relationships in the team by responding appropriately to advice or constructive criticism, e.g. listen to the advice offered, don't interrupt the person who is speaking, avoid inappropriate language such as sarcasm, offensive remarks
		5.6	Follow a plan to complete a task or activity on time	□ *Complete own task successfully and on time:* carry out own task to appropriate standard within agreed timescale, e.g. finished assembling two display boards with correct materials one day before the team presentation date, compared prices for baking ingredients and provided the pricing information to team at the time requested, obtained feedback sheets from customer and reported back to team within two days of the deadline
6	Be able to reflect on the performance of a team	6.1	Discuss how individual performance contributed to the overall performance of the team	□ *Individual performance as a team member:* follow code of conduct, complete individual task appropriately and on time, carry out individual responsibilities, offer help to others, offer feedback or advice to others, contribute to success of whole task
		6.2	Describe ways in which the team as a whole performed effectively	□ *Performance of team:* team worked well together, every team member made a contribution, team task completed to satisfactory standard, team task completed on time
		6.3	Select areas in which the team could improve its teamwork skills	

Information for tutors

Delivery

The unit has been designed to be a practical unit therefore learners will be participating in a team task.

To develop knowledge and understanding of the advantages and disadvantages of teamwork, guest speakers from colleges, schools, workplaces or other appropriate areas could be invited to speak about their experiences of teamwork. Learners could prepare questions to ask the speakers about the advantages and disadvantages of teamwork for learning outcome 1. For this, learners might find it helpful to look at scenarios which give different examples of tasks which are suitable for teamwork and those which are better completed by individuals. Learners in the workplace might find it useful to ask other colleagues about the advantages and disadvantages of teamwork or use the internet to find information about the experiences of other people.

Teams and teamwork tasks need to be considered before beginning delivery of learning outcomes 2, 3, 4, 5 and 6. Teams could be made up of around four to eight people who have the potential to complete the task that has been set. If the teamwork task is not assigned to a team known to the learner, the learner will need some time to get to know the other team members to identify their relevant strengths, skills and experiences required for learning outcome 3. Learners could work in their teams to agree tasks that are manageable and achievable and which match the skills and interests of the team.

For learning outcome 2, learners should use different methods to agree a code of conduct, for example group discussion, research and investigation. In particular, at this level, they should try to think through what might happen if aspects of the code of conduct were not followed. Learners will probably find it easier to come up with consequences of not following a team code of conduct if they do so in relation to different teamwork scenarios. Appropriate examples of different scenarios could be provided by the tutor or line manager. Groups could work to design a poster or presentation which identifies the agreed code of conduct for their own task. The posters or presentations could be displayed in the class or work area for learners to refer to.

For learning outcome 4, learners could work in their teams to allocate roles and responsibilities to all team members. Each learner could individually analyse their own contribution to the whole task and report back for the team.

Learners could compile a logbook that includes the agreed roles and responsibilities of each member of the team. The logbook will help the learner to monitor their performance, which is required for learning outcome 5.

For learning outcome 6, learners could discuss in a group the performance of individuals and that of the team as a whole. They could watch recordings of some of their activities and comment on their performance, as well as taking on board the comments of any observers.

Assessment

For 1.1 and 1.2, the learner needs to assess at least two advantages and two disadvantages of teamwork. Practical examples of team work situations could be given to support the response.

For 2.1, the code of conduct could be produced as a leaflet or as a poster and could relate to a specific task or team work in general. The poster or leaflet must include at least two likely consequences of team members not following the code of conduct for 2.2.

For 3.1, the learner must describe how at least one of their strengths, skills and experiences is relevant to some aspects of the agreed team task. The learner must identify at least two strengths, skills and experiences of other team members in order to meet 3.2. Evidence for 3.1 and 3.2 could be recorded in an appropriate format such as a logbook.

For 4.1, the role the learner played in agreeing the roles and responsibilities of the team members must be clearly evidenced. An observation record or witness statement could be completed by the tutor/line manager to show that the learner has played an appropriate role in this regard.

For 4.2, the learner must describe how each team member's role contributes to the team's objectives and the completion of the team task. The learner could compile a logbook to record the information. The logbook could take a variety of forms, depending on the needs of the individual learner.

The evidence required for 5.1, 5.2, 5.3, 5.4, 5.5 and 5.6 can be included in the logbook completed by the learner during the team task. The logbook will need to be verified by the tutor or line manager. Alternative methods of evidencing can be used, for example witness statement or observation.

The evidence for 6.1, 6.2 and 6.3 can be through a group discussion. Learners responses should be recorded for verification purposes.

Suggested resources

Websites

www.lifecoachexpert.co.uk	Lifecoach Expert
www.projectsmart.co.uk/team-building.html	Advice on team building

Unit 27: Producing a Product

Unit reference number: L/503/2890

Level: 2

Credit value: 1

Guided learning hours: 10

Unit aim

The aim of this unit is to give learners the skills and knowledge to produce their own item or product safely and to a desired standard. Learners will consider the skills needed and where to gain these skills as well as being able to assess the quality of the finished product.

Unit introduction

Having practical experience in producing a product or item will equip learners with a variety of skills useful for employability. In this unit, learners will have the opportunity to identify these skills and understand how these skills will be acquired. Learners will learn how to plan the manufacture of an appropriate product or item and will gain practical experience of making a product or item safely, to a desired standard of quality. They will also evaluate how the product or item was made, putting forward suggestions for changes to their plan for future manufacture.

Essential resources

Learners need access to an area suitable for the practical activities undertaken, for example a workshop or practical workroom. A variety of materials including wood, metal, and fabrics will enable learners to become familiar with the properties of different materials.

Depending on the product or item the learner will be producing, appropriate safety gear and equipment will be required and learners need to know the location of first aid supplies and support.

Where photographs and recordings, audio and video, are to be used as evidence, appropriate equipment will be needed.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Be able to plan the manufacture of a product or item	1.1	Create a production plan that outlines the process, materials and equipment required	□ *Planning to make the product or item*: logical, cost-effective and realistic plan for the product or item to be made; cost, quality, availability all affect choice of equipment, e.g. knowledge of using equipment
		1.2	Outline the safety measures to be taken to ensure the production process is safe	□ *Safety factors*: using equipment and safety clothing; effectiveness of equipment; training needed before using certain types of equipment, e.g. tools, measuring instruments, appliances, containers
		1.3	Outline the expected quality of the finished product	□ *Expected quality of product*: e.g. appearance, durability, effectiveness, taste, size, shelf-life
2	Understand the new skills required to make the product or item	2.1	Assess the new skills needed to make the product or item	□ *New skills needed to make the product or item*: personal skills, e.g. creativity, determination, confidence; practical skills, e.g. using new equipment, using new techniques or processes, problem-solving skills
		2.2	Discuss how and where new skills will be learned	□ *How and where new skills will be learned*: undertake training, consult training manuals, user guides, internet or other sources of information, seek advice from others who have experience in relevant areas, observe others producing a product or using a piece of equipment, obtain help from experienced person in making an initial sample of the product or item

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to produce the product or item in line with the plan and outlined safety requirements	3.1	Make the product using the materials and equipment specified in the plan	□ *In line with the plan*: use materials and equipment as listed in the original plan, follow suggested timelines and production methods
		3.2	Describe how the safety requirements were met during the production process	□ *Planned levels of safety in producing the product or item*: use correct materials, methods and equipment as required; use any equipment effectively and safely; use appropriate safety clothing and protection if required, e.g. safety glasses, appropriate footwear, gloves; first-aid supplies available; produce safe item or product
4	Be able to assess the plan and the finished product or item and make suggestions for improvements	4.1	Identify the parts of the plan that were successful	□ *Impact of the original product plan on quality of the product*: quality of planned choice of equipment, resources and materials; effectiveness of planned timeline for production; appropriateness of skills originally identified or not identified
		4.2	Identify the parts of the plan that were not successful	
		4.3	Make suggestions on how to improve the plan	
		4.4	Outline the positive and negative points of product or item	
		4.5	Make suggestions on how the product could be improved	□ *Future improvements*: suggestions for changes to plan in the light of experience, e.g. change timescales, use different equipment or materials, obtain additional help or resources, investigate costs of materials more thoroughly

Information for tutors

Delivery

This unit has been designed to be delivered as practically as possible. Learners should be encouraged to gain an understanding of producing a product or item and therefore visits to production lines should be encouraged. Group working and group discussion would be appropriate delivery methods, even where the learner's own assessment evidence needs to be recorded separately.

The learning outcomes and assessment criteria refer to products or items. Learners could produce small items such as handmade jewellery, confectionery, candles or gift boxes as well as larger-scale products, which might require the use of workshop facilities.

It would be helpful if learners could visit a production line in order to see how products and items are made on a commercial scale. The layout of the production line would help learners to sequence their own production plan, as well as giving them an opportunity to see how tools and materials are used. The safety concerns of staff using machinery can also be highlighted.

Group work can be used to generate discussion around the creation of production plans. Learners should be asked to create plans for producing products or items that they are familiar with such as making a cup of coffee or tea. Learners can then concentrate on the process and think about the skills needed.

Learners will need time to practise making their product or item. Safety should be paramount, and learners should be aware of the safety measures that they need to take. Peer assessment of their work will allow learners to develop their skills in assessing the quality of the finished product.

Learners will need regular assessor support and guidance, with progress reviews undertaken by the tutor or line manager to identify knowledge and skills that have been developed, as well as areas of knowledge, understanding and skills that need improvement.

Learners may want to seek advice from people they know who are involved in manufacturing products or items. Alternatively, entrepreneurs could be invited to speak to the group about their experiences in producing a product or item. Case studies, TV documentaries or the internet can also prove useful sources of information for learners.

Activities can be carried out individually, or a group of learners could work together to make an item or product. The item or product itself can be simple in design. It is the learner's learning experiences that are of most importance.

Assessment

This unit can be assessed through a series of structured tasks or activities. A range of assessment activities can be used. Evidence could include photographs, video and audio recordings.

For 1.1, the learner must write a plan to produce their product or item. The plan needs to include an outline of the process, the choice of materials and equipment.

The learner must give reasons for the chosen materials and equipment, as well as any potential difficulties or disadvantages.

For 1.2, the learner does not need to show that they have accounted for all possible safety considerations, but all major safety considerations will need to be referenced in their plan so that it is obvious the learner intends to produce the product or item with safety in mind.

For 1.3, the learner must complete an outline of the intended quality of the product which must be clear.

Tutors can support learners in finding suggestions of effective ways to plan the production of a product or item, but the plan must be chosen and compiled by the learner independently. A variety of appropriate means of evidence can be used for 1.1 to 1.3 such as a planning log, a written proposal, PowerPoint presentation, video clip or leaflet.

For 2.1, the learner must assess at least two new skills that they will need to acquire in order to produce the product or item. It can be a personal and practical skill. For 2.2, the learner should explain how and where the new skills referred to in 2.1 will be acquired.

For 3.1, observation by the tutor of the learner making the product or item safely, or making an aspect of the product or item safely, will need to be recorded. For 3.2, the learner needs to describe how they adhered to the safety requirements outlined in their plan by identifying at least two different safety measures that they took when producing the product or item.

For 4.1 and 4.2, the learner needs to assess their plan and the finished product or item.

The learner must identify at least two parts of the plan that contributed to the success and at least two parts that caused problems in the production of the product or item. The learner should give at least two suggestions on how to improve the plan with regard to the final quality of the product or item.

Evidence for 4.1, 4.2 and 4.3 could take the form of a recorded discussion in which the learner comments on the impact of the product plan on the quality of the finished item or product. Alternatively, a question and answer session with a witness statement can be used. If a written plan was used by the learner for 1.1, the learner could cross-reference the quality of the product or item against the relevant aspects described in the planning template

For 4.4 and 4.5, the learner needs to outline at least one positive and one negative aspect of their product or item. The learner should make at least two suggestions on how to improve the product or item. Evidence could take the form of a recorded discussion or a written outline.

Suggested resources

Websites

www.enterprise-education.org.uk	Enterprise Education Trust
www.enterpriseinschools.org.uk/enterpriseinschools/index.php	Enterprise in schools – access to education
www.gov.uk/browse/business	Government information on starting up and running a business
www.stridingout.co.uk	Provides leadership, business and career-building advice

Unit 28: Planning an Enterprise Activity

Unit reference number: R/503/2888

Level: 2

Credit value: 1

Guided learning hours: 10

Unit aim

The aim of this unit is to give learners the skills and knowledge to plan an enterprise activity. Learners will choose an enterprise activity, create coherent plans and assess the risks involved in implementing their plans.

Unit introduction

Enterprise activities offer opportunities to learn and develop the entrepreneurial characteristics of tenacity, independence, innovation, imagination, risk-taking, creativity, intuition and leadership. In this unit, learners will have a broad introduction to prepare to undertake an enterprise activity. The unit will help learners to find out and explain details of an enterprise idea, including understanding how to choose a viable enterprise activity, how to develop a product or service according to an implementation plan and how to assess some of the potential risks involved.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Know how to choose a viable enterprise activity	1.1	Describe key aspects of a viable product or service	□ *Key aspects of a viable product or service*: providing a product or service for which there is sufficient customer demand, product or service priced correctly, using appropriate promotional and sales strategies, high levels of customer care and satisfaction, sufficient financial, technical and human resources in place
		1.2	Describe why people might want to buy their product or service	□ *Possible customers*: clear idea of what the product or service is and what it will do or provide for the customer, e.g. handmade gift wrap will provide customer with a high quality, environmentally friendly, original product that is produced locally using recycled paper and non-toxic paints; linking the product or service to customer needs/wants, e.g. people with busy schedules or a disability are likely to make use of a dog walking service, people who are interested in fashion might wish to buy handmade jewellery
2	Be able to prepare a plan for implementing an enterprise activity	2.1	Describe the tasks that need to be completed to carry out the enterprise activity	□ *Planning to implement the enterprise activity*: key activities needed, e.g. administration, planning timelines, finance and budgeting, sales, promotion; practical/technical skills needed for making product or providing service; assessing own skills and knowledge; using past experience
		2.2	Present the timelines required to carry out the tasks identified	
		2.3	Create a coherent plan for implementing an enterprise activity, including the tasks and timelines identified	

Learning outcomes		Assessment criteria		Unit amplification
3	Understand the risks involved in running the enterprise activity	3.1	Assess main risks that may occur in implementing the enterprise activity	□ *Assess main risks*: different types of risks, e.g. lack of skills, competition from others, price of production, raising finance for start-up costs, weather, motivating group of helpers; factors that might lessen risks, e.g. start-up costs are minimal, payment will be received immediately at point of sale, no additional staff required to provide the service, family members on hand to provide back-up help and support
		3.2	Discuss ways to minimise the risks	

Information for tutors

Delivery

This unit has been designed to make the key topics as practical as possible. Learners should be encouraged to gain an understanding of planning an enterprise activity in a highly applied way. Group working and discussion would be appropriate delivery methods, even where the learner's own assessment evidence needs to be recorded separately.

An enterprise activity does not have to be large. The activity can either be producing a product, for example greeting cards or gift wrap, or providing a service, for example selling ice cream or car washing. During delivery of this unit, learners should be given as much practical experience as possible.

To introduce the unit, tutors could stimulate group discussion as to what is required for an enterprise activity to be successful. Through the discussion, ideas could also be generated regarding different types of products and services and how they could be provided. It is important to emphasise that the activity must be possible within the learner's current skill set. These ideas could be explored individually or through group activity.

It would be helpful if learners had the opportunity to identify a range of different types of products and services before choosing which idea to pursue further in this unit. A question and answer session could determine the viability or appropriateness of different enterprise ideas. The strengths and weaknesses of the planned enterprise activity could also be explored through the form of a 'Dragons' Den' type of presentation to a group, with peers commenting on the ideas and whether or not they think customers are likely to buy the product or service.

Tutors could stimulate group discussion about what is needed to plan a successful enterprise activity. This does not need to be as detailed as a business plan, which would be considered as part of a business studies course at this level.

However, materials produced for business start-ups could be a useful point of reference. A plan for this unit could cover a description of the product or service, how it will be provided, when and how it can be sold and what the likely demand might be.

A question and answer session could determine what should be included in the plan for the enterprise activity as well as the tasks that need to be carried out before it starts trading. Business people or entrepreneurs could be invited to address the group on the subject of planning an enterprise activity. Alternatively, learners could interview business people that they know and report back to the group what they found out about enterprise planning.

It would be useful for learners to watch clips of TV adverts and/or review advertising from a range of newspapers and magazines to understand how to include promotion and selling in their enterprise plan. Information could also be gained from a range of other resources, including books, the internet and media articles. Personal skills in selling and promoting could be observed through TV programmes such as *Dragons' Den*.

Learners could investigate the financial aspect of their chosen enterprise idea through active research on costs via the internet or interaction with possible suppliers. Setting prices could be a result of research (such as questionnaires or a small-scale focus discussion), exploring what prices customers are prepared to pay for a product or service and finding out from business people how to set realistic prices for a product or service.

An understanding of the possible risks could be understood through watching TV programmes such as *Dragons' Den* or making use of magazines and websites that provide information and advice for entrepreneurs.

Assessment

This unit can be assessed through a series of structured tasks or activities including a mixture of theory-based and practical application.

For 1.1, the learner must describe their choice of product or service, what it will provide to the customer, and how it will be provided. For 1.2, the learner needs to describe at least one type of customer who is likely to buy their product or service and explain why the customer is likely to buy the product or service.

For 2.1, the learner needs to describe the tasks that need to be done. This could include the research about customer needs as well as what materials they will need before they start the enterprise activity. For 2.2, the learner needs to estimate and present a timeline showing how long it will take to carry out the tasks.

For 2.3, the learner must create a plan for their chosen activity, taking into account the tasks and timelines they have identified. Their plan should also include details of how the product will be produced or how the service will be run, when and how it can be sold and what the likely customer demand is. Simple promotion and sales plans must be included and they must identify who they will need to help run the enterprise activity. The plan could be in the form of a written report, presentation, video clip or other appropriate format.

For 3.1,the learner must assess at least two risks that could affect the success of their enterprise activity and offer at least two suggestions. For 3.2, the learner must consider ways that the risks could be reduced. This could be, for example, in the form of a presentation of a mind map, a written report or a 'risks log'. The number of potential risks will depend on the individual enterprise activity, but typically the learner should be able to identify at least two potential risks and consider how to minimise them.

Suggested resources

Websites

www.enterprise-education.org.uk	Enterprise Education Trust
www.enterpriseinschools.org.uk/enterpriseinschools/index.php	Enterprise in schools – access to education
www.gov.uk/browse/business	Government information on starting up and running a business
www.stridingout.co.uk	Provides leadership, business and career-building advice.

Unit 29: Running an Enterprise Activity

Unit reference number: Y/503/2889

Level: 2

Credit value: 1

Guided learning hours: 10

Unit aim

The aim of this unit is to enable learners to use their skills and knowledge to run an enterprise activity. Learners will create plans, use their customer skills, handle money and keep basic financial records. Learners will evaluate the activity and their personal involvement.

Unit introduction

Enterprise activities offer opportunities to learn and develop the entrepreneurial characteristics of tenacity, independence, innovation, imagination, risk-taking, creativity, intuition and leadership. In this unit, learners will have the opportunity to carry out an enterprise activity. Learners will develop an understanding of the importance of having a strategy for an enterprise activity, dealing with money, sales techniques and customers correctly. They will also develop the ability to evaluate the success of their activity and review their personal involvement.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Be able to provide a strategy to ensure the success of an enterprise activity	1.1	Identify what is required in an operational plan	□ *Features of an operational plan:* research, e.g. current marketplace provision, customer research, product research, competitors; practical implementation, e.g. facilities, resources, quality assurance, skills; finance and cash flow
		1.2	Create an operational plan for the actual enterprise activity	□ *Features of an effective strategy for success*: importance of planning for success, e.g. conducting market research, finding out customer needs, considering competitors and competitor products or services, planning practical implementation of the activity (including appropriate facilities, resources, quality assurance and skills), planning for financial and cash flow aspects, evaluation of own personal and practical skills in running the enterprise activity, identifying gaps in required skills
2	Be able to carry out an enterprise activity using appropriate skills and procedures	2.1	Demonstrate a range of skills and techniques to sell the product or service	□ *Selling the product or service using appropriate skills, techniques and materials*: suitable product or service prepared; necessary components for production or implementation obtained; promotion materials and product information produced and displayed; location prepared and enterprise activity set up; prices determined and displayed; sales skills demonstrated
		2.2	Demonstrate good customer care	□ *Customer care*: communicating appropriately with customers, listening to customers, answering customer questions accurately and appropriately, being friendly and helpful, resolving customer problems, e.g. defective goods, unsatisfactory level of service, incorrect price charged

Learning outcomes		Assessment criteria		Unit amplification
		2.3	Demonstrate correct handling money procedures for an enterprise activity	□ *Importance of handling money correctly*: knowing correct procedures to follow to keep within the law, keep money safe and boost chances of making a profit, accuracy in calculations and financial records in order to reflect true financial situation
		2.4	Explain the importance of correct handling money procedures for an enterprise activity	
3	Be able to evaluate the profitability of the enterprise activity	3.1	Present financial records to show the set up costs, running costs and other costs	□ *Using financial records to explain the success or failure of the enterprise*: evaluation of enterprise activity from financial records to show set-up and running costs overestimated/underestimated/accurately estimated, number of items produced or services offered exceeded/met/fell short of customer demand, profit made/not made on enterprise activity
		3.2	Present financial records showing sales and profit or losses	
		3.3	Give reasons for the financial success or financial failure of the enterprise activity	
4	Know how to review personal involvement in an enterprise activity	4.1	Describe skills gained from running the enterprise activity	□ *Role in the enterprise activity and skills gained*: roles, e.g. salesperson, planner, team motivator, finance person, administrator, overseeing production; skills, e.g. planning and organisation skills, research skills, promotion and sales skills, record keeping skills, motivational skills, problem-solving skills
		4.2	Describe personal strengths which were demonstrated during the enterprise activity	□ *Identify strengths and weaknesses of their personal involvement*: strengths, e.g. strong leadership skills, good customer relations, effective selling techniques; weaknesses, e.g. lack of time management
		4.3	Describe skills that need to be improved as a result of participating in the enterprise activity	

Information for tutors

Delivery

This unit has been designed to be as practical as possible. Learners should be encouraged to gain an understanding of running an enterprise activity in a highly practical way. Group working and group discussion would be appropriate as delivery methods, even where the learner's own assessment evidence needs to be recorded separately.

An enterprise activity does not have to be a large activity. It can either be producing a product, for example greeting cards, baking biscuits, making sweets, or making jewellery, or providing a service, for example selling ice cream or car washing.

Learners should be given as much practical experience as possible. This unit has been designed so that it can be delivered with *Unit 28: Planning an Enterprise Activity* and *Unit 30: Producing a Product*.

Learners should think through a strategy to ensure that their enterprise activity is successful. Learners might find it helpful to use group discussions initially to explore how they could come up with a plan to ensure their enterprise activity is successful. 'Successful' in this context means that the learner understands how to carry out their activity and reach their planned sales targets. Learners could also conduct individual research on appropriate websites or have question and answer sessions with visiting business people.

The enterprise activity could be delivered as part of an 'enterprise activity day' using the format of a trade fair with a variety of stands. Alternatively, the enterprise activity could take the form of a one-off small-group activity or an individual enterprise activity.

At this level, learners could be given a degree of independence in deciding how they could run their enterprise activity. Learners in the workplace should be able to identify and use some work-related skills in running their enterprise activity.

Group discussions could be used to help learners come up with a checklist of tasks needed to carry out the activity on the chosen day(s). This could also be an individual piece of written work or a PowerPoint presentation.

To help learners think about the key financial information they need to record in order to evaluate the overall successes and/or failures of the enterprise activity, in terms of profitability, entrepreneurs or business people could be invited to speak to learners. Visiting speakers could talk about which financial information to record, and provide examples of how financial information can be used to show the successes and failures of an enterprise activity.

If appropriate, visiting experts could also be invited to participate in a question and answer session with learners during which they share information about their own involvement in business and enterprise, and what skills and lessons they have learned from participating in enterprise initiatives. Alternatively, learners could conduct their own individual research such as looking at case studies and interviews with entrepreneurs regarding how to evaluate the financial success of an enterprise activity, as well as what personal skills might be gained from being involved in such an activity. The results of individual learner research could be shared with other learners in a group discussion or displayed in poster format in the classroom or learning area.

Assessment

Assessment of this unit centres on the completion on an enterprise activity.

For 1.1, the learner needs to identify what needs to be included in their operational plan. The learner should consider the customer, what they intend to do, resources, and how and when they are going to do it. This work can form the basis of material for 1.2.

For 1.2, the learner must produce a plan for achieving success in a chosen enterprise activity. This could be in a written report, a brief presentation, as video-based evidence or a log or record sheet. The plan should include reference to the customer, their needs, the promotional materials to be used, the staffing of the event, and the venue and the proposed date or dates when the enterprise event will take place. The plan should also include reference to the times, the venue, the staffing, quality control, any additional relevant information should be included, such as health and safety information or special arrangements for dealing with cash.

For 2.1,the learner must provide witnessed evidence that the enterprise activity has taken place. The product or service should have been prepared adequately, the price and benefits of the product or service made clear, and appropriate sales and implementation skills must have been demonstrated by the learner. In addition, to achieve 2.2, the learner must demonstrate appropriate customer service skills in providing the enterprise service or product. The prepared product or service may be something the learner has produced themselves (for example jewellery), or something produced by someone else (for example ice cream purchased by the learner and sold on a stall at a trade fair). For 2.3, the learner must demonstrate appropriate handling of money for example, the money should be kept in a safe place, in a secure box and out of sight. Photographic or video evidence could be used as well as a tutor witness statement.

For 2.4 the learner must explain at least two reasons why it is important to handle money correctly in an enterprise activity.

For 3.1 and 3.2, the learner needs to present simple financial records, showing costs and revenue for the enterprise activity. These should be accompanied for 3.3, by at least two reasons (verbal or written) about the link between the success or failure of the enterprise activity and its financial performance.

For 4.1, learners should describe the skills they have learnt in the course of their activity. For 4.2, the learner must evaluate their involvement in the activity and comments on the skills that have been gained through the activity. The learner should describe at least two personal strengths. This feeds into 4.3, where the learner must describe at least two skills that they want to improve. This could be provided for example in written form, as part of a brief presentation witnessed by a tutor or completion of a self-assessment activity.

Suggested resources

Websites

www.enterprise-education.org.uk	Enterprise Education Trust
www.enterpriseinschools.org.uk/enterpriseinschools/index.php	Enterprise in schools – access to education
www.gov.uk/browse/business	Government information on starting up and running a business
www.stridingout.co.uk	Provides leadership, business and career-building advice

Unit 30: Learning with Colleagues and Other Learners

Unit reference number: J/503/2872

Level: 2

Credit value: 2

Guided learning hours: 20

Unit aim

This unit gives learners the opportunity to learn new skills with others by considering the importance of learning with others, planning own learning, interacting appropriately with others and reflecting on the success of learning.

Unit introduction

This unit introduces learners to the importance of colleagues and other learners as a valuable resource in the learning process. Learners will have the opportunity to demonstrate that they can work as part of a group in a learning and development context, understanding learning goals and interacting appropriately with their peer group. Learners will also reflect on their experience of learning with a group of colleagues or other learners.

Essential resources

Learners need access to situations where they learn alongside co-workers or other learners.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Understand the importance of learning with colleagues or other learners	1.1	Describe how learning with one's colleagues or other learners is important for own development	□ *Importance of learning with others*: finding more effective answers and solutions to tasks or problems through interaction with other co-workers or learners, e.g. solving a problem by using ideas from several people rather than just own ideas; developing interpersonal skills through learning alongside others, e.g. patience, empathy, tolerance, flexibility, loyalty, reliability
2	Know how to plan the learning to be undertaken with colleagues or other learners	2.1	Select a learning goal to undertake with colleagues or other learners	□ *Learning goals*: identifying an aspect of their learning they can undertake with co-workers or other learners; identifying a goal they can work towards or that is relevant to development in their field of work or study, e.g. attend team training course to learn new customer service skills for call centre, work in a group to carry out research for school assignment
		2.2	Describe ways to work towards achieving the learning goal	□ *Working towards the learning goal*: e.g. attend training course and attempt all tasks given on the course, complete assigned part of group/team project, compile list of questions to ask visiting speaker during question and answer session

Learning outcomes		Assessment criteria		Unit amplification
3	Be able to interact appropriately with colleagues or other learners in a learning situation	3.1	Respond appropriately to advice from others	□ *Responding appropriately to advice from others*: thanking someone for their advice, asking an appropriate question about the advice offered, being polite in expressing that you don't agree with the advice
		3.2	Express beliefs and opinions to others appropriately	□ *Expressing beliefs and opinions*: preferences and dislikes, relevance of an aspect of learning to them, how useful the learning was
		3.3	Give helpful feedback to others	□ *Giving helpful feedback*: feedback to other learners on how useful learning was, what could be improved or changed
4	Be able to review the learning undertaken with colleagues or other learners	4.1	Give examples of how learning with colleagues or other learners took place	□ *Examples of learning with others*: informal learning situations e.g. team-building activities or development activities, day-to-day working with a team of people at the same level; formal learning situations, e.g. training courses, induction days, classes, workshops
		4.2	Describe an example of learning with others that was successful	□ *Reviewing the learning with others*: deciding whether the experience of learning with others was successful, e.g. whether the group task was achieved, whether the learner found out new information from others or acquired new skills from being with others; considering anything that could have been done better, e.g. the learner should have paid more attention to the suggestions and ideas of other learners or co-workers in the group
		4.3	Discuss an example of learning with others that was not successful	

Information for tutors

Delivery

Group or individual discussions would provide opportunities for learners to discuss a situation in which they will learn with people who are working or learning at the same level as them. Examples could include situations where they learn alongside colleagues, classmates or other learners) and people who have the same level of experience as them (for example people they come into contact with during activities such as training courses or on induction sessions). These should be people who are familiar to the learner and who they come into contact with, although this may not necessarily be on a day-to-day basis.

For learning outcome 2, tutors/line managers could discuss and agree the learning goal in advance with learners. For example, this could be about learning a new skill or developing their communication skills, about learning a new IT package or finding out information relevant to their work. A group or team development session (run informally or formally as appropriate) would also be useful for learning outcome 2. For learners who have access to the workplace, this could be a formal training course, workshop or an induction session the learner plans to attend with the agreement of their line manager/tutor.

Learning outcome 3 can be demonstrated during an activity such as a training course or in a team-building or development session in which the learner's peers are also present.

For learning outcome 4, learners might find it helpful to reflect on questions about how and what they have learned with their co-workers or other learners. This could include 'What types of activity did I/the group carry out?' 'How did this help my learning?' What new skills/information did I learn? Did I learn anything useful that I did not expect to learn?' 'Did I make the progress I expected towards my goal, and if not, what else do I need to do?'

Learners should also be given the opportunity to reflect on their learning experience with others. They could consider what they thought the benefits were of learning in a group situation rather than learning on their own. Learners could also think about whether or not the learning experience was a positive one, and if not, what benefits they see in learning alone.

Assessment

Evidence for 1.1 could come from a group discussion which shows the learner's individual contribution, or an individual discussion with the tutor/line manager. This can take the form of a taped discussion, video evidence or other appropriate form. It could be supported by written notes from the learner or tutor/line manager. For 1.1, the learner needs to describe why learning with other learners or colleagues is important for their personal development.

Evidence for 2.1 and 2.2 could be a one-to-one discussion between the tutor/line manager and the learner in which the learner describes a learning goal they will be able to undertake with peers and explains how they will work towards achieving the learning goal.

Evidence for 3.1 to 3.3 could be an observation of the learner by the tutor, line manager or other designated person, or written evidence. At least one example of each kind of behaviour is required. Evidence could take the form of a witness statement, observation notes or a video of the learner's interaction with other colleagues or learners, along with supporting notes. If in a written format, evidence of the learner's communication must be provided (for example copies of emails, memos or letters) with a supporting commentary from the tutor/line manager, if appropriate.

The learner should respond appropriately to advice from others in the group, for example advice on how to do something better. The advice given by others could be directed to the learner individually or to a group of which the learner is a part. The learner should also show that they are able to express beliefs and opinions to others appropriately. Their beliefs and opinions could relate to the general learning situation or to their own learning. Additionally, the learner must show they can give helpful feedback about their learning in an appropriate way. For example, if the learner is filling in feedback forms at a training course, they could provide helpful suggestions about how to improve the course and what they found useful or not. The information should be able to be used by others to improve on training or development situations.

Evidence for 4.1, 4.2 and 4.3 could come from a one-to-one discussion between the tutor/line manager and the learner or a small-group discussion in which the learner gives at least two examples of how they have learned with colleagues or other learners (for 4.1). 4.2 and 4.3 require the learner to reflect on their shared learning experience, describing at least one example of what they have learned, understood or gained from the experience of working/learning with others. Learners should also describe at least one example of when learning with others was difficult and why.

Suggested resources

Websites

www.lifecoachexpert.co.uk	Lifecoach Expert
www.mindtools.com	Toolkit for developing work-related skills

Unit 31: Self-management Skills

Unit reference number: A/503/2867

Level: 2

Credit value: 2

Guided learning hours: 20

Unit aim

The aim of this unit is for learners to develop an understanding of the importance of self-management for employees and others in the workplace, and to develop self-management skills for work.

Unit introduction

A proactive approach to self-management is a vital aspect of employability. Employees need to be able to manage themselves appropriately in order to stay safe, healthy and to make a constructive contribution to the workplace.

In this unit, learners will develop an understanding of why self-management in the workplace is important and how effective self-management benefits themselves, their colleagues and their employer. Learners will demonstrate a range of self-management skills throughout the working day and evaluate their performance, suggesting any areas for improvement.

Essential resources

There are no special resources required for this unit.

Learning outcomes, assessment criteria and unit amplification

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Unit amplification
1	Understand the importance of self-management for work	1.1	Explain why it is important for individuals to self-manage in the workplace	□ *Importance of managing themselves*: contribute to own health and wellbeing, builds self-esteem and confidence, builds better working relationships with peers and other colleagues, appreciated more by others, can perform work more comfortably and easily
		1.2	Explain how to self-manage in the workplace	□ *How to manage themselves effectively in the workplace*: e.g. taking care of personal wellbeing, e.g. select healthy meal options in canteen at lunchtime to boost physical health, talk to supervisor or human resources representative if feeling anxious about learning new tasks; follow health and safety guidelines, e.g. take regular breaks from looking at the computer screen, use correct method for lifting heavy objects; manage time effectively, e.g. check daily tasks lists every morning for any urgent tasks
		1.3	Explain benefits to others in the workplace when individuals self-manage effectively	□ *Benefits of effective self-management to others*: for immediate colleagues, other colleagues, the employer, e.g. makes workplace safer, avoids problems related to inappropriate workloads, boosts morale and a positive atmosphere in the workplace, lower rates of absence from work, higher rates of productivity if staff are happy and healthy in their workplace

Learning outcomes		Assessment criteria		Unit amplification
2	Be able to self-manage for work	2.1	Produce a plan of activities and breaks for a working day	□ *Effective self-management skills*: plan for a working day including anticipated tasks, time needed for completion, prioritising, break times; range of skills needed, e.g. time management, understanding of health and safety, keeping themselves and others safe and healthy
		2.2	Carry out activities prioritising to achieve daily objectives	
3	Be able to review own self-management skills for work	3.1	Assess own self-management skills for work	□ *Assessment of performance*: analysis of plan and performance, e.g. was plan carried out, was there a need to change the plan during the working day, did learner feel safe and comfortable in the workplace?
		3.2	Identify aspects of self-management for improvement	□ *Areas for improvement*: discussion of what went well and what did not go so well; suggest areas for improvement, e.g. will ask for help in future if unable to complete a task within the required deadline

Information for tutors

Delivery

This unit can be delivered in the workplace, work placement or volunteering commitment or in a simulated situation in a school or college. The self-management skills listed are those which need to be demonstrated by learners within an educational context as well as by employees. It is likely, therefore, that learners will already be aware of a range of self-management skills in a general context.

Tutors/line managers could use copies of procedures for different types of organisations as appropriate, for example school or college procedures for staff and/or learners relating to self-management (or if the workplace, copies of procedures for that workplace). Relevant training or developmental courses or exercises relating to self-management (for example time management, 'mock' work tasks and 'in tray exercises', health and safety, personal management) are also useful resources.

Learning outcome 1 could be delivered through group discussion or discussion between the learner, their line manager, supervisor or another appropriate person familiar to the learner. Tutors/line managers could give the group or individual learner prompts and facilitate the discussion to help learners explain how and why it is important to manage themselves in the workplace. Learners should discuss why it is beneficial, for themselves and to others, that they look after themselves in the workplace. Learners could create a poster or leaflet.

Tutors/line managers can wish to use organisational procedures and health and safety policies as a background to show learners the types of responsibilities employees have to their health and wellbeing, and also how the workplace can support employees in this.

In preparing a plan for a working day, tutors/line managers could discuss and agree the format of the plan with learners in advance. Tutors/line managers can give learners a template for a plan to fill in, allowing them to record all the essential information.

Learning outcome 2 may be delivered in a variety of ways. If in a work situation, learners could carry out their normal daily activities whilst being observed by their line manager, supervisor or another responsible person. In a simulated situation, learners could be given (or agree with their tutor) a scenario that enables them to demonstrate self-management skills within the workplace. However, learners would need an opportunity to demonstrate that they can carry out a range of activities. Tutors/line managers could spend time with learners in preparation for the demonstration, for example carrying out a simulated activity in which the tutor, line manager or other observer helps or supports the learner by pointing out, for example, health and safety issues that they may have missed. They can also discuss and agree the activities learners will demonstrate, in advance of the demonstration. Learners must be comfortable with the expectations of the demonstration and the way in which they will be assessed, for example if it is an observation then they should be comfortable with the presence of an observer who may not necessarily offer advice and support during the assessment.

Learning outcome 3 could be delivered through a one-to-one discussion between the tutor or line manager and the learner. Learners and tutors would discuss how the learner fared in their demonstration and learners would have the opportunity to analyse their performance. Tutors/line managers could include this analysis as part of any formal reporting (for example appraisal or review sessions during the year).

Assessment

For 1.1, the learner must explain why it is important that they manage themselves in the workplace.

For 1.2, the learner needs to provide at least two examples of how to self-manage in the workplace.

For 1.3, the learner must explain at least three benefits of effective self-management to others in the workplace, for example benefits to other colleagues and the employer. Evidence to support 1.1, 1.2 and 1.3 can be either in a written format, for example records of group or individual discussion (written by the tutor/line manager or by the learner with sign-off from the tutor), or a video or via audio recording.

For 2.1, the learner should produce a plan for their working day in advance of their demonstration. The plan can be discussed and agreed by the tutor/line manager and prepared to a set template, but the information contained within the plan must be from the learner and must include anticipated tasks for that day. To show the learner's understanding of their daily objectives, the plan will prioritise the tasks and estimate the time the learner will need to take to complete these. The plan will also allow for break times appropriate to the workplace situation, for example the learner is likely to be spending long periods of time at a computer and will need to schedule time when they can move away from the computer and rest their eyes.

For 2.2, the learner should demonstrate self-management skills within the workplace. They must show that they can structure appropriate breaks during their working day. In achieving 2.2, the learner will need to prioritise tasks and activities appropriately to meet their daily objectives, although they could discuss them with their tutor or line manager in advance. The tasks and activities should be agreed before the learner undertakes their work. The learner must show that they can use these skills and understand what they are carrying out, although tutors and others can support and prompt them.

The demonstration needs to be observed by the tutor or another person designated to assess the learner (this could be a line manager or supervisor for example). The observation needs to form the basis of a discussion with the learner after the demonstration. This observation could be a written statement by the tutor or line manager (which would support good practice for appraisal and review in the workplace), or a video with supporting commentary from the tutor or line manager.

For 3.1 and 3.2, the learner needs to carry out an analysis of their performance representing their own views on their performance and recording them. It is appropriate for the tutor, line manager or colleague to offer constructive criticism and for the learner to include this feedback in their performance review if they wish to do so. However, the learner's self-evaluation should represent their own views on their performance and be recorded independently. The learner needs to discuss what they felt went well, (for example being able to do some extra work due to rescheduling tasks and activities) and what they felt did not go so well (such as being late for a meeting or missing a phone call). The learner should be able to discuss with their tutor or line manager what they felt they could improve on.

Evidence to support 3.1 and 3.2 can be written, for example written statements from the learner on the review of their performance and/or supporting statements from the tutor, line manager or other person involved in the discussion and review, or through video or taped discussion.

Learners' written statements do not have to be lengthy and can be discussed and agreed by the tutor/line manager in advance.

Suggested resources

Websites

www.gov.uk/brose/business	Government information on starting up and running a business
www.lifecoachexpert.co.uk	Lifecoach Expert
www.monster.co.uk	Careers advice
www.worksmart.org.uk/career	Careers advice

10 Further information and useful publications

To get in touch with us visit our 'Contact us' pages:

- Edexcel, BTEC and Pearson Work Based Learning contact details: qualifications.pearson.com/en/support/contact-us.html
- books, software and online resources for UK schools and colleges: www.pearsonschoolsandfecolleges.co.uk

Key publications:

- *Adjustments for candidates with disabilities and learning difficulties, Access and Arrangements and Reasonable Adjustments, General and Vocational qualifications* (Joint Council for Qualifications (JCQ))
- *Supplementary guidance for reasonable adjustments and special consideration in vocational internally assessed units* (Pearson)
- *General and Vocational qualifications, Suspected Malpractice in Examination and Assessments: Policies and Procedures* (JCQ)
- *Equality Policy* (Pearson)
- *Recognition of Prior Learning Policy and Process* (Pearson)
- *UK Information Manual* (Pearson)
- *BTEC UK Quality Assurance Centre Handbook*

All of these publications are available on our website.

Publications on the quality assurance of BTEC qualifications are also available on our website.

Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please visit our website.

Additional resources

If you need further learning and teaching materials to support planning and delivery for your learners, there is a wide range of BTEC resources available.

Any publisher can seek endorsement for their resources and, if they are successful, we will list their BTEC resources on our website.

11 Professional development and training

Pearson supports UK and international customers with training related to BTEC qualifications. This support is available through a choice of training options offered on our website.

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- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
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- Subject Advisors: find out more about our subject advisor team – immediate, reliable support from a fellow subject expert
- Ask the Expert: submit your question online to our Ask the Expert online service and we will make sure your query is handled by a subject specialist.

Please visit our website at qualifications.pearson.com/en/support/contact-us.html

Annexe A

Mapping to Functional Skills

Level 1	Unit number																			
English — Speaking and listening	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Take full part in formal and informal discussions and exchanges that include unfamiliar subjects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
English — Reading																				
Read and understand a range of straightforward texts	✓																		✓	
English — Writing																				
Write a range of texts to communicate information, ideas and opinions, using formats and styles suitable for their purpose and audience																				

Level 1	Unit number										
English — Speaking and listening	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
Take full part in formal and informal discussions and exchanges that include unfamiliar subjects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
English — Reading											
Read and understand a range of straightforward texts	✓			✓	✓						
English — Writing											
Write a range of texts to communicate information, ideas and opinions, using formats and styles suitable for their purpose and audience				✓							

Level 1	Unit number																			
Mathematics — Learners can	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Representing • understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine • identify and obtain necessary information to tackle the problem • select mathematics in an organised way to find solutions	✓								✓						✓	✓	✓	✓	✓	
Analysing • apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes • use appropriate checking procedures at each stage	✓							✓	✓	✓	✓			✓	✓	✓	✓		✓	
Interpreting • interpret and communicate solutions to practical problems, drawing simple conclusions	✓														✓	✓	✓			

Level 1	Unit number										
Mathematics — Learners can	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
Representing • understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine • identify and obtain necessary information to tackle the problem • select mathematics in an organised way to find solutions				✓			✓	✓	✓		
Analysing • apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes • use appropriate checking procedures at each stage				✓			✓	✓	✓		
Interpreting • interpret and communicate solutions to practical problems, drawing simple conclusions				✓							

Level 1	Unit number																			
ICT — Use ICT systems	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Identify the ICT requirements of a straightforward task																				
Interact with and use ICT systems to meet requirements of a straightforward task in a familiar context																				
Manage information storage																				
Follow and demonstrate understanding of the need for safety and security practices																				
ICT — Find and select information																				
Use search techniques to locate and select relevant information	✓																✓			
Select information from a variety of ICT sources for a straightforward task																				

Level 1	Unit number										
ICT — Use ICT systems	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
Identify the ICT requirements of a straightforward task	✓			✓	✓						
Interact with and use ICT systems to meet requirements of a straightforward task in a familiar context	✓			✓	✓						
Manage information storage				✓							
Follow and demonstrate understanding of the need for safety and security practices											
ICT — Find and select information											
Use search techniques to locate and select relevant information	✓			✓	✓						
Select information from a variety of ICT sources for a straightforward task	✓			✓	✓						

Level 1	Unit number																		
ICT — Develop, present and communicate information	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
Enter, develop and refine information using appropriate software to meet the requirements of straightforward tasks																			
Use appropriate software to meet requirements of straightforward data-handling task																			
Use communications software to meet requirements of a straightforward task																			
Evaluate the selection and use of ICT tools and facilities used to present information																			
combine information within a publication for a familiar audience and purpose																			
Evaluate own use of ICT tools																			

Level 1	Unit number										
ICT — Develop, present and communicate information	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
Enter, develop and refine information using appropriate software to meet the requirements of straightforward tasks				✓							
Use appropriate software to meet requirements of straightforward data-handling task				✓							
Use communications software to meet requirements of a straightforward task				✓							
Evaluate the selection and use of ICT tools and facilities used to present information				✓							
combine information within a publication for a familiar audience and purpose				✓							
Evaluate own use of ICT tools				✓							

November 2017

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