QUALIFICATION SPECIFICATION

gateway qualifications

Digital and IT Skills (Level 2)

Access to HE
Apprenticeships
Digital
Employability & Enterprise
English & Maths
ESOL
Personal & Social Development
Professional Development
Vocational

This qualification specification covers the following qualifications:

Qualification Number	Qualification Title
603/6468/3	Gateway Qualifications Level 2 Award in Digital and IT Skills
603/6502/X	Gateway Qualifications Level 2 Certificate in Digital and IT Skills
603/6515/8	Gateway Qualifications Level 2 Extended Certificate in Digital and IT Skills
603/6505/5	Gateway Qualifications Level 2 Diploma in Digital and IT Skills

Version and date	Change detail	Section/Page Reference
1.0 Aug 2020	n/a	n/a
1.1 May 2022	Barring detail updated	Throughout
1.2 Nov 2022	Removed address and changed back cover Level 2 Digital Skills Career progression unit added	Page 33 Page 37
1.3 (Dec 2022)	Removed reference to Level 1 qualifications	Throughout
1.4 (Jan 2024)	Removed L1 Units for Word Processing and Spreadsheets from Appendix	Appendix 1 – Unit details

About this qualification specification

This qualification specification is intended for tutors, internal quality assurers, centre quality managers and other staff within Gateway Qualifications recognised centres and/or prospective centres.

It sets out what is required of the learner in order to achieve the qualifications. It also contains information specific to managing and delivering the qualifications including specific quality assurance requirements.

The guide should be read in conjunction with the Gateway Qualifications Centre Handbook and other publications available on the website which contain more detailed guidance on assessment and quality assurance practice.

In order to offer these qualifications you must be a Gateway Qualifications recognised centre and be approved to offer the qualifications.

If your centre is not yet recognised, please contact our Development Team to discuss becoming a Gateway Qualifications Recognised Centre:

Telephone: 01206 911211
Email: enquiries@gatewayqualifications.org.uk
Website: https://www.gatewayqualifications.org.uk/advice-guidance/delivering-our-qualifications/become-recognised-centre/

Contents

1. Qualification Information

1.1 About the qualifications

The qualifications have been approved by the Office of Qualifications and Examinations Regulation (Ofqual) that regulates qualifications, examinations and assessments in England and Qualifications Wales, the regulator of non-degree qualifications and the qualifications system in Wales.

These qualifications are for learners who want to develop and extend their digital and IT skills to prepare for different roles in the digital and creative industries, such as software and programming, network support and digital design. The qualifications are also designed for job roles in other industries where specific digital and IT skills are required, such as finance, marketing, machining and manufacturing. The qualifications include a mandatory unit along with optional units that relate directly to the skills, knowledge and behaviours expected by employers and cover a wide range and use of different digital technologies, systems and software.

1.2 Purpose

The qualifications' purpose are to:

- prepare learners to progress to a qualification in the same sector or a related area at a higher level
- prepare learners for employment within different roles in the digital and creative industries and in other industries that require specific digital and IT skills

1.3 Funding

For information on potential sources of funding in England please visit the Education and Skills Funding Agency:

https://www.gov.uk/government/organisations/education-and-skills-funding-agency

https://www.gov.uk/government/collections/qualifications-approved-for-public-funding

https://hub.fasst.org.uk/Pages/default.aspx

For information regarding potential sources of funding in Wales please visit Qualification Wales:

https://www.qualificationswales.org/

1.4 Geographical coverage

These qualifications are approved by Ofqual to be offered in England and by Qualification Wales to be delivered in Wales.

If a centre based outside England or Wales would like to offer these qualifications, they should make an enquiry to Gateway Qualifications. The qualifications are not available for delivery by centres based in Northern Ireland.

1.5 Progression opportunities

The approved age range for these qualifications is: 16-18 and 19+.

Learners can progress in a number of ways:

- broadening the range of skills they develop by increasing the size of their qualification (Award → Certificate → Diploma)
- developing skills at a higher level by moving up the level of qualification from Level 1 to Level 2 and then to Level 3
- progressing to employment where they can apply their digital and IT knowledge and skills.

1.6 Equality, diversity and inclusion

It is Gateway Qualifications' aim that there shall be equal opportunities within this organisation and in all the services it provides and within its recognised centres and via the services they provide and so meet the organisation's legal responsibilities to prevent discrimination.

In particular it is the organisation's intention that there should be no discrimination on the grounds of a protected characteristic including age, disability, gender assignment, marriage and civil partnership, pregnancy and maternity, race, religion and belief, sex, sexual orientation. It is acknowledged that this is not an exhaustive list.

2. Learner Entry Requirements

2.1 Key information

Qualification Titles	
Age	16-18 & 19+
Prior qualifications or units	There is no requirement for learners to have achieved prior qualifications or units prior to undertaking this/these qualifications.
Prior skills/knowledge/ understanding	Learners are expected to have some prior knowledge and experience of digital and IT skills, for example as exemplified in the National standards for Essential Digital Skills or through the KS4 curriculum.
Restrictions	There are no restrictions to entry.
Initial Assessment	Centres should carry out an initial assessment to ensure that learners have the necessary underpinning knowledge and skills to undertake the selected units.
Additional requirements/guidance	There are no additional rules or guidance regarding learner entry requirements.

2.2 Access to qualifications for learners with disabilities or specific needs

Gateway Qualifications and recognised centres have a responsibility to ensure that the process of assessment is robust and fair and allows the learner to show what they know and can do without compromising the assessment criteria.

Gateway Qualification has a duty to permit a reasonable adjustment where an assessment arrangement would put a disabled person at a substantial disadvantage in comparison to someone who is not disabled. Please refer to Section 4.11 Access Arrangement, Reasonable Adjustments and Special Considerations for further details.

2.3 Recruiting learners with integrity

Centres must recruit learners with integrity. They must ensure that learners have the correct information and advice on their selected qualification and that the qualification will meet their needs.

Centres must assess each potential learner and make justifiable and professional judgements about their potential to successfully complete the assessment and achieve the qualification. Such an assessment must identify, where appropriate, the support that will be made available to the learner to facilitate access to the qualification.

3 Qualification Details

3.1 Achievement methodology

The qualifications will be awarded to learners who successfully achieve an approved combination of units through a Portfolio of Evidence that has been successfully verified and monitored through Gateway Qualifications' Quality Assurance process. Achievement is therefore determined by successful completion of unit assessment with no further requirement for additional/summative assessment. Centres may choose to cluster units together for the purpose of assessment and to support project based learning.

3.2 Qualification size

Qualification Title	Total Qualification Time	Guided Learning	Credit Value
Gateway Qualifications Level 2 Award in Digital and IT Skills	60	48	6
Gateway Qualifications Level 2 Certificate in Digital and IT Skills	150	120	15
Gateway Qualifications Level 2 Extended Certificate in Digital and IT Skills	300	240	30
Gateway Qualifications Level 2 Diploma in Digital and IT Skills	450	360	45

Total Qualification Time is the number of notional hours which represents an estimate of the total amount of time that could be reasonably expected to be required for a Learner to achieve and demonstrate the achievement of the level of attainment necessary for the award of the qualification.

Total Qualification Time is comprised of the following two elements:

- the number of hours which an awarding organisation has assigned to a qualification for Guided Learning, and

- an estimate of the number of hours a Learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place by – but, unlike Guided Learning, not under the Immediate Guidance or Supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

3.3 Qualification structure

The qualification requirements are provided below.

The knowledge, skills and understanding that will be assessed as part of the qualifications are set out within unit specifications. Unit contents, including the learning outcomes and

associated assessment criteria, are published on the Gateway Qualifications website, contained within this qualification specification and are also available to download from the qualification library in the online system Prism.

For information on Recognition of Prior Learning/Exempt and Equivalent units please see section **3.4 Recognition of Prior Learning (RPL)**

Gateway Qualifications Level 2 Award in Digital and IT Skills

Learners must complete 6 credits from Group M (Digital and IT Skills Units)

Mandatory Group

Learners must complete 6 credits from Group M (Digital and IT Skills Units)

Unit Number	Unit Title	Level	Credit Value	GLH
T/618/3670	Computer-Aided Design	2	6	48
T/618/3703	Computer Programming	2	6	48
A/618/3671	Computerised Accounting Software	2	3	24
L/618/3674	Cybersecurity	2	6	48
D/618/3677	Data Management and Analytics	2	3	24
H/618/3678	Database Design and Development	2	6	48
K/618/3679	Desktop Publishing Software	2	3	24
D/618/3680	Digital Graphics	2	6	48
H/618/3681	Digital Skills Career Progression	2	3	24
K/618/3682	Digital Skills Project	2	6	48
M/618/3683	Exploring New and Emerging Digital Technologies	2	3	24
T/618/3684	Games Design and Development	2	6	48
A/618/3685	Games Engines	2	6	48
F/618/3686	Interactive Media	2	6	48
J/618/3687	IT Technical Support	2	6	48
L/618/3688	Mobile App Development	2	6	48
R/618/3689	Network Management	2	6	48
J/618/3690	Networking	2	6	48
L/618/3691	Photo Editing Software	2	3	24
R/618/3692	Presentation Software	2	3	24
Y/618/3693	Project Management Software	2	3	24
D/618/3694	Social Media Marketing	2	3	24
H/618/3695	Spreadsheet Software	2	3	24
K/618/3696	Using Digital Technologies	2	3	24
M/618/3697	Website Design and Development	2	6	48
K/618/3701	Word Processing Software	2	3	24

Gateway Qualifications Level 2 Certificate in Digital and IT Skills

Learners must complete 3 credits from Group M (Mandatory) and a further 12 credits from the optional unit groups; Group O1 (Digital Design), Group O2 (Digital Marketing), Group O3 (IT and Network Support), Group O4 (Machining and Manufacturing Technology), Group O5 (Productivity) or Group O6 (Software and Programming). A minimum of 9 credits must be at the level of the qualification.

Mandatory Group

Learners must complete 3 credits from Group M (Digital and IT Skills Units)

Optional Groups (O1-O6)

Learners must complete 12 credits from the optional unit groups; Group O1 (Digital Design), Group O2 (Digital Marketing), Group O3 (IT and Network Support), Group O4 (Machining and Manufacturing Technology), Group O5 (Productivity) or Group O6 (Software and Programming)

Learners cannot include more than one unit with the same or similar title.

Gateway Qualifications Level 2 Extended Certificate in Digital and IT Skills

To achieve this qualification learners must complete 3 credits from Group M (Mandatory) and a further 27 credits from the optional unit groups; Group O1 (Digital Design), Group O2 (Digital Marketing), Group O3 (IT and Network Support), Group O4 (Machining and Manufacturing Technology), Group O5 (Productivity) or Group O6 (Software and Programming). A minimum of 21 credits must be at the level of the qualification.

Mandatory Group

Learners must complete 3 credits from Group M (Digital and IT Skills Units)

Optional Groups (O1-O6)

Learners must complete 27 credits from the optional unit groups; Group O1 (Digital Design), Group O2 (Digital Marketing), Group O3 (IT and Network Support), Group O4 (Machining and Manufacturing Technology), Group O5 (Productivity) or Group O6 (Software and Programming).

Learners cannot include more than one unit with the same or similar title.

Gateway Qualifications Level 2 Diploma in Digital and IT Skills

To achieve this qualification learners must complete 3 credits from Group M (Mandatory) and a further 42 credits from the optional unit groups; Group O1 (Digital Design), Group O2 (Digital Marketing), Group O3 (IT and Network Support), Group O4 (Machining and Manufacturing Technology), Group O5 (Productivity) or Group O6 (Software and Programming).

A minimum of 30 credits must be at the level of the qualification.

Mandatory Group

Learners must complete 3 credits from Group M (Digital and IT Skills Units).

Optional Groups (O1-O6)

42 credits from the optional unit groups; Group O1 (Digital Design), Group O2 (Digital Marketing), Group O3 (IT and Network Support), Group O4 (Machining and Manufacturing Technology), Group O5 (Productivity) or Group O6 (Software and Programming).

Learners cannot include more than one unit with the same or similar title.

Mandatory Group

Unit Number	Unit Title	Level	Credit Value	GLH
H/618/3681	Digital Skills Career Progression	2	3	24

Optional Group – Digital Design (O1)

Unit Number	Unit Title	Level	Credit Value	GLH
*L/618/3643	Digital Graphics	1	6	48
*D/618/3680	Digital Graphics	2	6	48
*H/618/3647	Digital Skills Project	1	6	48
*K/618/3682	Digital Skills Project	2	6	48
*M/618/3652	Games Design and Development	1	6	48
*T/618/3684	Games Design and Development	2	6	48
A/618/3685	Games Engines	2	6	48
*A/618/3654	Interactive Media	1	6	48
*F/618/3686	Interactive Media	2	6	48
*Y/618/3662	Photo Editing Software	1	3	24
*L/618/3691	Photo Editing Software	2	3	24
*A/618/3668	Website Design	1	6	48
*M/618/3697	Website Design and Development	2	6	48

*L/618/3643 (Digital Graphics) is barred against D/618/3680 (Digital Graphics).

*H/618/3647 (Digital Skills Project) is barred against K/618/3682 (Digital Skills Project).

*M/618/3652 (Games Design and Development) is barred against T/618/3684 (Games Design and Development).

*A/618/3654 (Interactive Media) is barred against F/618/3686 (Interactive Media).
*Y/618/3663 (Photo Editing Software) is barred against L/618/3691 (Photo Editing Software).

*A/618/3668 (Website Design) is barred against M/618/3697 (Website Design and Development).

Optional Group – Digital Marketing (O2)

Unit Number	Unit Title	Level	Credit Value	GLH
*H/618/3664	Social Media Marketing	1	3	24
*D/618/3694	Social Media Marketing	2	3	24

*H/618/3664 (Social Media Marketing) is barred against D/618/3694 (Social Media Marketing).

Optional Group – IT and Network Support (O3)

Unit Number	Unit Title	Level	Credit Value	GLH
*Y/618/3631	Cybersecurity	1	6	48
*L/618/3674	Cybersecurity	2	6	48
*J/618/3656	Introduction to Networking	1	6	48
*J/618/3690	Networking	2	6	48
R/618/3689	Network Management	2	6	48
*L/618/3660	IT Support Fundamentals	1	6	48
*J/618/3687	IT Technical Support	2	6	48

*Y/618/3631 (Cybersecurity) is barred against L/618/3674 (Cybersecurity).

*J/618/3656 (Introduction to Networking) is barred against J/618/3690 (Networking).

*L/618/3660 (IT Support Fundamentals) is barred against J/618/3687 (IT Technical Support).

Optional Group – Machining and Manufacturing Technology (O4)

Unit Number	Unit Title	Level	Credit Value	GLH
*A/618/3623	Computer-Aided Design	1	3	24
*T/618/3670	Computer-Aided Design	2	6	48

*A/618/3623 (Computer-Aided Design) is barred against T/618/3670 (Computer-Aided Design).

Optional Group – Productivity (O5)

Unit Number	Unit Title	Level	Credit Value	GLH
*R/618/3627	Computerised Accounting Software	1	3	24
*A/618/3671	Computerised Accounting Software	2	3	24
*H/618/3633	Database Software	1	3	24
*H/618/3678	Database Design and Development	2	6	48
D/618/3677	Data Management and Analytics	2	3	24
*A/618/3640	Desktop Publishing Software	1	3	24
*K/618/3679	Desktop Publishing Software	2	3	24
*D/618/3663	Presentation Software	1	3	24
*R/618/3692	Presentation Software	2	3	24
Y/618/3693	Project Management Software	2	3	24
H/618/3695	Spreadsheet Software	2	3	24
*M/618/3666	Using Digital Technologies	1	3	24
*K/618/3696	Using Digital Technologies	2	3	24
K/618/3701	Word Processing Software	2	3	24

*R/618/3627 (Computerised Accounting Software) is barred against A/618/3671 (Computerised Accounting Software).

*H/618/3633 (Database Software) is barred against H/618/3678 (Database Design and Development).

*A/618/3640 (Desktop Publishing Software) is barred against K/618/3679 (Desktop Publishing Software).

*D/618/3663 (Presentation Software) is barred against R/618/3692 (Presentation Software).

*M/618/3666 (Using Digital Technologies) is barred against K/618/3696 (Using Digital Technologies).

Optional Group – Software and Programming (O6)

Unit Number	Unit Title	Level	Credit Value	GLH
M/618/3683	Exploring New and Emerging Digital Technologies	2	3	24
*R/618/3658	Introduction to Programming	1	6	48
*T/618/3703	Computer Programming	2	6	48
L/618/3688	Mobile App Development	2	6	48

*R/618/3658 (Introduction to Programming) is barred against T/618/3703 (Computer Programming).

3.4 Recognition of prior learning

Recognition of Prior Learning (RPL) provides learners and Centres with an alternative assessment method by which a learner's previous achievements can meet the assessment requirements for a unit/qualification through the knowledge, understanding or skills that they already possess and so, do not need to develop these through a course of learning.

It enables the recognition of achievement from a range of activities using any valid assessment methodology. Provided that the assessment requirements of a given unit or qualification have been met, the use of RPL is acceptable to contribute to a unit, units or a whole qualification according to the RPL criteria for a given qualification.

The recognition of prior learning is permitted for this qualification and includes the prior attainment of units on a qualification offered by Gateway Qualifications, e.g. where a learner progresses from a smaller qualification to a larger qualification and where the qualifications have shared content such as an Award, Certificate and/or Diploma.

Qualification Number	Qualification Title	RPL Permitted
603/6468/3	Gateway Qualifications Level 2 Award in Digital and IT Skills	No
603/6502/X	Gateway Qualifications Level 2 Certificate in Digital and IT Skills	Yes
603/6515/8	Gateway Qualifications Level 2 Extended Certificate in Digital and IT Skills	Yes
603/6505/5	Gateway Qualifications Level 2 Diploma in Digital and IT Skills	Yes

Centres should refer to the Gateway Qualifications' Recognition of Prior Learning policy and follow the process available on the website.

3.5 Links to other qualifications

Gateway Qualifications Level 2 Award in Digital and Creative Industries

Gateway Qualifications Level 2 Certificate in Digital and Creative Industries

Gateway Qualifications Level 2 Diploma in Digital and Creative Industries

Gateway Qualifications Level 2 Extended Diploma in Digital and Creative Industries

4 Assessment

4.1 Assessment overview

Should a learner not achieve the required standard to pass an assessment, further teaching and learning should take place before attempting the assessment again.

4.2 Assessment format

The method of assessment for the qualifications is through a portfolio of evidence.

4.3 Assessment language

The qualifications are assessed in English only.

4.4 Support materials and resources

In addition to this qualification specification, the following resources are available on the Gateway Qualifications website:

- Centre Handbook

4.5 Access Arrangements, Reasonable Adjustments and Special Considerations

Gateway Qualifications and recognised centres have a responsibility to ensure that the process of assessment is robust and fair and allows the learner to show what they know and can do without compromising the assessment criteria. Gateway Qualifications understands its requirement as an awarding organisation to make reasonable adjustments where a learner, who is disabled within the meaning of the Equality Act 2010, would be at a substantial disadvantage in comparison to someone who is not disabled.

Gateway Qualifications has identified reasonable adjustments permissible as detailed below. A reasonable adjustment is unique to an individual and therefore may not be included in the list of available access arrangements.

Centres do not need to apply to Gateway Qualifications for approval of reasonable adjustments unless adaptation of externally set assessments is required.

Learners can have access to all forms of equipment, software and practical assistance, such as a reader or a scribe that reflect their normal way of working within the centre. However, such adjustments must not affect the reliability or validity of assessment outcomes or give the candidate an assessment advantage over other candidates undertaking the same or similar assessments.

The following adaptations are examples of what may be considered for the purposes of facilitating access, as long as they do not impact on any competence standards being tested:

- adapting assessment materials;
- adaptation of the physical environment for access purposes;
- adaptation to equipment;
- assessment material in an enlarged format or Braille;
- assessment material on coloured paper or in audio format;
- British Sign Language (BSL);
- changing or adapting the assessment method;
- changing usual assessment arrangements;
- extra time, e.g. assignment extensions;
- language modified assessment material;
- practical assistant;
- prompter;
- providing assistance during assessment;
- reader;
- scribe;
- transcript;
- use of assistive software;
- using assistive technology;
- use of CCTV, coloured overlays, low vision aids;
- use of a different assessment location;
- use of ICT/responses using electronic devices.

It is important to note that not all the adjustments (as above) will be reasonable, permissible or practical in particular situations. The learner may not need, nor be allowed the same adjustment for all assessments.

Learners should be fully involved in any decisions about adjustments/adaptations. This will ensure that individual needs can be met, whilst still bearing in mind the specified assessment criteria for a particular qualification.

All reasonable adjustments made by the centre must be recorded on the Gateway Qualifications' Reasonable Adjustments Form and should be made available to Gateway Qualifications upon request. Guidance on the process for applying for formal adjustments can be found on the Forms and Guidance page of Gateway Qualifications' website.

All adjustments to assessment/s must be authorised by the centre's named Quality Assurance nominee or a member of staff with delegated authority where a centre is permitted to make reasonable adjustments, i.e. for internally marked assessments.

Centres should keep records of adjustments they have permitted and those they have requested from Gateway Qualifications. These records should normally be kept for 3 years following the assessment to which they apply.

It is recommended that centres nominate members of staff to take responsibility for demonstrating the implementation and recording of adjustments to assessments for monitoring by Gateway Qualifications or the regulatory authorities.

Special Considerations

Requests for special consideration should be submitted as soon as possible. Please refer to the Reasonable Adjustments and Special Consideration Policy.

5 Centre Recognition and Qualification Approval

5.1 Centre Recognition

Both centre recognition and qualification approval must be gained before centres are permitted to deliver these qualifications.

Guidance on the centre recognition and qualification approval processes is available on the website: https://www.gatewayqualifications.org.uk/advice-guidance/help-admin-tasks/centre-recognition/

5.2 Centre requirements

Centres must ensure that they have the appropriate resources in place when delivering performance units from vocational areas.

5.3 Qualification-specific staffing requirements

Please refer to the Staffing Requirements - Qualification Specific Roles section within the online centre handbook for tutor/assessor/IQA requirements: https://www.gatewayqualifications.org.uk/advice-guidance/delivering-our-qualifications/centre-handbook/quality-compliance/

6 Quality Assurance

Centres should refer to the online Centre Handbook for further guidance.

The quality assurance process for these qualifications is through risk-based external quality assurance monitoring through reviews of centres' internal quality assurance systems against key quality standards and sampling of assessment decisions and internal quality assurance activity to ensure that qualification standards are maintained.

Centre monitoring is undertaken by an External Quality Assurer (EQA) allocated to the centre. The EQA plays a critical role in the Gateway Qualifications approach to centre assessment standards scrutiny as they are responsible for:

- carrying out an annual compliance visit
- validating the centre's procedures for delivery of qualifications and assessment
- completing reports for each visit with clear action points where needed
- risk rating centres on the above.

The EQA carries out an initial risk assessment at the centre recognition stage and then annually on an on-going basis using Gateway Qualifications' risk assessment criteria, and gives a high/medium/low risk rating in each of the following categories:

- centre resourcing and arrangements: this includes consideration of centre staffing, induction and training, policies and compliance with our centre agreement
- internal assessment and delivery: including reference to staff knowledge and skills, understanding of requirements, and appropriateness of delivery arrangements; also, delivery of external assessments including invigilation, conduct of assessments and confidentiality (where appropriate)
- internal quality assurance: covering IQA procedures, whether staff are appropriately trained, and standardisation arrangements are in place
- learner experience: that embraces appropriateness of initial assessment and learners being on the correct programme, learner induction and course support.

EQAs arrange quality monitoring visits to all recognised centres. These visits:

- monitor the centre's compliance with the centre recognition terms and conditions by reviewing programme documentation and meeting managers and centre staff
- identify any staff development needs
- ensure that all procedures are being complied with, through an audit trail, and make sure that the award of certificates of completion to learners is secure.

EQAs contact the centre in advance of a visit, however Gateway Qualifications reserves the right to undertake unannounced visits including during assessment times.

EQAs will request information from the centre in advance of a planned visit to help inform the evidence to be reviewed during the visit. Centres are obliged to comply with any requests for access to premises, people and records for the purposes of the monitoring visit. If a centre fails to provide access, then Gateway Qualifications will take appropriate action.

Once a visit date has been agreed, the centre should ensure that the appropriate members of staff attend the meeting, all requested documentation is provided and access to qualification, learner and staff records is available.

If a centre cancels a pre-arranged monitoring visit at short notice the EQA must be satisfied that there was a legitimate reason for the cancellation. If this cannot be established, Gateway Qualifications reserves the right to withhold certification claims until a monitoring visit is completed.

Following the visit, the EQA completes a monitoring report which will be sent to the centre for reference afterwards.

The frequency of the quality monitoring visits will be determined by the volume of learner registrations and the actions arising from previous monitoring activity.
Centres found in breach of these procedures may be subject to sanctions by Gateway Qualifications. Please refer to the Gateway Qualifications Sanctions Policy.

6.1 Internal Quality Assurance

As the assessments are tutor marked the centre must operate an internal quality assurance process. This ensures that qualification standards are being applied consistently within a centre through training, standardisation, sampling of marking and feedback. A centre's internal quality assurance process is led by the Internal Quality Assurer (IQA) who is responsible for ensuring that all tutors are marking assessments in line with the standards set by Gateway Qualifications.

Internal Standardisation
Internal standardisation is a collaborative process by which tutors within a centre consider work that they have marked and, using pre-determined criteria, reach a common agreement on standards as being typical of work at a particular level by comparing samples and providing peer evaluation.

Standardisation will be facilitated by the Centre's IQA and should include all those involved in marking assessments. Centre standardisation events should be held at regular intervals and to a schedule which reflects delivery patterns and supports the marking of live assessments. Centres will be required to keep records of each internal standardisation event including the date, attendees and notes on any outcomes and actions. Centres will be required to store these reports securely for three years and Gateway Qualifications may ask to see these records as part of the centre quality assurance and monitoring activities.

6.2 Quality assuring centre marking

Once the internal quality assurance process is complete, an EQA will be allocated to a centre to sample the centre marking.

The sample selected is based on the number of learners and the centre's risk rating, derived from centre monitoring.

Evidence of the inconsistent marking and actions taken informs the centre's risk rating and this information will be taken into account with the sampling of future assessments, for example, leading to an increase in sampling size.

6.3 Malpractice

Malpractice is any deliberate activity, neglect, default or other practice that compromises the integrity of the internal and external assessment process, and/or the validity of certificates. It covers any deliberate actions, neglect, default or other practice that compromises, or could compromise:

- the assessment process
- the integrity of a regulated qualification
- the validity of a result or certificate
- the reputation and credibility of Gateway Qualifications
- the qualification to the public at large.

Centre staff should be familiar with the contents of Gateway Qualifications Malpractice and Maladministration Policy, https://www.gatewayqualifications.org.uk/wp-content/uploads/2017/10/Malpractice-and-Maladministration-Policy.pdf

6.4 Additional quality assurance requirements

There are no additional internal/external quality assurance requirements for this/these qualification/s.

7 Learner Registration and Results

7.1 Registration

Centres will register learners via the online registration portal. Learner registration guidance is available on our website, https://www.gatewayqualifications.org.uk/advice-guidance/help-admin-tasks/registering-learners/.

7.2 Awarding

The qualifications will be awarded as Pass or Fail. Learners must pass the assessment to be awarded a Pass.

7.3 Issuing results

Results for learners who do not reach the minimum standard for a pass will be recorded as fail.

7.4 Appeals

Centres must have internal appeal arrangements which learners can access if they wish to appeal against a decision taken by Centres, which will include a named contact at the Centre. These arrangements have to be transparent and accessible in order that appeals from learners can be received, considered and resolved fairly.
Please refer to the Gateway Qualifications' Appeals policy:
https://www.gatewayqualifications.org.uk/wp-content/uploads/2017/09/Appeals-Policy.pdf

7.5 Enquiries

Enquiries about assessment decisions should be made once the centre has followed its internal enquiries and appeal procedures.

Contact details are available on our website:
https://www.gatewayqualifications.org.uk/contact-us/

8 What to do next

For existing centres please contact your named Development Manager or Development Officer.

Email: enquiries@gatewayqualifications.org.uk

9 Gateway Qualifications

Gateway Qualifications, a not for profit registered charity, is an Awarding Organisation based in Colchester.

We work with learning providers and industry experts to design and develop qualifications that benefit the learner and the employer.

We support flexible, responsive and quality assured learning opportunities whether it's in the classroom, at work, in the community or through distance learning.

We are recognised by Ofqual, to design, develop and submit qualifications to the Regulated Qualifications Framework (RQF) and Qualification Wales to offer regulated qualifications in Wales.

10 Appendices

10.1 Appendix 1 – Unit Details

Digital Skills Career Progression

Unit Number: H/618/3681

Level: Level 2

Credit Value: 3

GLH: 24

Unit Aim: This unit provides learners with an understanding of the importance of digital skills in the workplace and how changes in employment have led to an increase in demand across a number of sectors. Learners will learn about the different types of job roles where digital skills are required, and the characteristics valued by employers to establish a successful career in today's digital economy. Learners will also identify their own career/progression goals and plan how they will develop their digital skills to meet their intended goals.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:		ASSESSMENT CRITERIA The learner can:	
1	Understand the effects of digital technologies on employment.	1.1	Explain the impact of digital technologies on employment.
2	Understand the digital skills and characteristics that are valued by employers.	2.1	Describe the different types of digital skills and characteristics that are valued by employers.
3	Understand the different job roles and digital technologies that require digital skills.	3.1	Explain how digital technologies are used in different sectors and the digital skills associated with them.
		3.2	Compare the digital skills required for two different job roles in a particular sector.
4	Be able to produce a digital skills development plan to meet intended career/progression goals.	4.1	Summarise intended digital skills career/progression goals.
		4.2	Produce a SMART plan to develop digital skills to meet intended career/progression goals.

Indicative Content: Digital Skills Career Progression

Learning Outcome 1:

Effects of digital technologies on employment:

- Reduction of employment in offices, as jobs have been replaced by computers and other digital devices in a number of fields (payroll workers, typing pools, car production workers)
- An increase in employment in other fields (website designers, computer programmers, data analysts, digital marketers, engineering design).
- Changing working patterns: remote working, part-time working, flexible hours, job sharing, compressed hours.
- Potential physical and psychological health risks: repetitive strain injury (RSI), back problems, eye problems, headaches, stress, fatigue, pain from poorly positioned equipment/and or bad posture, too much screen time/not being able to 'switch-off' from work.

Learning Outcome 2:

- Industry specific: technical knowledge, working procedures and practices, etc.
- General: skills: communication, interpersonal skills, planning skills, organisational skills, time management, team working, numeric skills, creativity, problem solving, etc.
- Attitudes: determined, independent, integrity, tolerant, dependable, leadership, confidence, self-motivation, etc.

Learning Outcome 3:

- Digital skills covers a broad range of roles across a number of sectors, for example, spreadsheet software is not only used by accountants and consultants, these skills are also essential to administrative, HR assistants and a number of other roles. Forklift/delivery drivers and warehouse workers also need digital skills as they need to know how to use inventory management systems.

Learners need to be aware that digital skills can be categorised in the following ways:

- Baseline digital skills - digital literacy skills that employers ask for in the vast majority of jobs across all sectors in the labour market include:spreadsheet and word processing tools such as Microsoft Excel and Microsoft Word, as well as enterprise management software like Oracle and SAP. These proficiencies are increasingly becoming a basic skill required for a majority of occupations.
- Digital/IT skills - competences in and/or knowledge of IT tools including computer programs and programming languages.
- Specific digital skills - digital skill requirements for more technically oriented jobs in areas such as customer relationship management (CRM) software, computer networking, digital media and design software, social media tools, and search engine analysis.
- Learners need to think about the different roles and sectors, such as the digital and creative industries where roles in software and programming, networking support or digital design are in demand, or the finance, marketing and machining and manufacturing industries where roles in data analysis, digital marketing and computer-aided design are required.

• Particular sector: for example, creative, IT, finance, machining and manufacturing, marketing etc.
Learning Outcome 4: Learners should identify the characteristics and digital skills needed to meet their career/progression goals and include relevant SMART targets in a development plan with planned opportunities to indicate how/when they plan to develop their knowledge, skills and behaviours in reparation for employment, apprenticeship or further study.

Digital Graphics

Level: Level 1

Credit Value: 6

GLH: 48

Unit Number: L/618/3643

Unit Aim: In this unit learners will develop an understanding of the different types of digital graphics and how they are used. They will generate ideas in response to client requirements and learn how to use tools and techniques to manipulate and create digital graphics for different purposes.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1 Understand digital graphics.	1.1 Describe how digital graphics are used for different purposes. 1.2 Identify digital graphics file formats and their uses. 1.3 Describe how purpose and audience influence the design and layout of digital graphics.
2 Be able to plan digital graphics to meet client requirements.	2.1 Generate design ideas 2.2 Obtain assets for use in digital graphics. 2.3 Identify legal issues that need to be considered when creating digital graphics.
3 Be able to create digital graphics.	3.1 Create digital graphics using a range of assets, tools, and manipulation techniques. 3.2 Save digital graphics in appropriate file format.
4 Be able to review digital graphics.	4.1 Review how well the digital graphics meet client requirements, making suggestions for further improvements.

Indicative Content: Digital Graphics
Learning Outcome 1: • Purpose: learners should investigate a range of digital graphics in both print and electronic format e.g. magazine covers, adverts, posters, cartoons, web images and graphics logos, signs, posters, packaging, web graphics, engineering drawings, manuals, imagery in movies and computer game etc and how they are used to communicate, invoke emotion, educate, advertise, promote, inform, entertain different audiences (e.g. age, gender, interest, need) etc. • Features: bitmap image (photograph), or vector graphic text (logo), composition, use of colour and texture, size and position, characters and objects, file type and sizes, resolution. • Bitmap or (raster): images are stored as a series of tiny dots called pixels, depict lifelike images, larger file sizes, enlargement can reduce quality (pixelated/blocky). • Vector: consists of shapes, curves, lines, and text, used for abstract art such as logos, more scalable, smaller file sizes. • File formats, e.g. jpeg, bmp, png, eps, wmf, pdf, proprietary formats, file compression (lossy and lossless), screen and print resolutions, storing and retrieving files, e.g. saving, import and export to other formats, file size considerations. • Properties of images sourced from digital cameras, scanners, internet and photo libraries, to include pixel dimensions, resolutions and suitability for use in creating graphics. • Properties of bitmap/raster images and vector-based graphics, the use of colour, composition, and layout.
Learning Outcome 2: **AC 2.1:** • It is recommended that the client brief requires learners to produce several digital graphics to allow them to think about the creative aspects of the graphics (typography, colour and composition) in relation to purpose, use, audience, etc. • Consideration of the purpose of the digital graphics learners will create by reviewing client brief when creating a design, the context in which the product will be used, target audience, what it is marketing or selling, what is the message to be communicated, style and tone of product delivery, e.g. humorous, formal, classic, youthful. • Develop ideas for how the digital graphics will be used, for example, 2D digital publishing graphics, e.g. emagazines, DVD covers, promotional materials, moving image – motion graphics, e.g. title sequences for films, television, websites, e.g. educational, corporate, entertainment, digital 2D game, e.g. titles sequences, interface design for PC, handheld, consoles or mobile gaming. **AC 2.2:** • Obtain appropriate ready-made assets with consideration of file format and identify and record sources. **AC 2.3:** • Understanding copyright and intellectual property law in relation to creative works, obtaining permission, acknowledging sources/referencing.
Learning Outcome 3: • Digital tools and manipulation techniques: cropping, rotating, brightness/contrast, levels, colour adjustment, cloning, retouching, red eye removal, apply effects, filters, selections, use of layers, text, rendering, shadows, proportion, texture use, picking stock images, combining and merging multiple images, colour blending, extracting parts of images and combining, changing background colours.

Indicative Content: Digital Graphics
• Appropriate file format: for print, screen, or web, e.g. bmp, png, gif, tif, jpg, psd, ai, swf, flv.
Learning Outcome 4: • Learners should review the digital graphics against the client brief on the quality of finished product and its fitness for purpose, the review should identify positives and negatives relating to the digital graphics, rather than the creation process. • Learner should include reflections on the digital graphics (strengths and areas for development), taking into account user feedback, own self-assessment, feedback from others (peers, tutors).

Digital Graphics

Level: Level 2

Credit Value: 6

GLH: 48

Unit Number: D/618/3680

Unit Aim: In this unit learners will develop an understanding of the different types of digital graphics and how they are used. They will research and plan design ideas in response to a client brief and learn how to manipulate digital graphics using photo and vector editing techniques to create bitmap and vector graphics for specific purposes. This unit also allows learners to obtain feedback on their work for review and further development.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1 Understand the principles of digital graphics.	1.1 Describe the purpose and features of bitmap and vector digital graphics. 1.2 Explain the factors that influence design, layout and properties of digital graphics. 1.3 Describe how file format, compression, image resolution and colour depth affect file size and image quality.
2. Be able to plan design ideas for bitmap and vector digital graphics in response to a client brief.	2.1. Research and produce design ideas. 2.2. Explore drawing techniques. 2.3. Describe the legal restrictions for all images and graphics whether ready-made or created.
3. Be able to develop bitmap and vector digital graphics.	3.1 Create and prepare assets for digital graphics. 3.2 Create digital graphics using photo-editing and vector-editing tools and techniques. 3.3 Save digital graphics in appropriate pixel dimension and resolution.
4. Be able to review and refine bitmap and vector digital graphics.	4.1 Review digital graphics with client to obtain feedback, making refinements where necessary. 4.2 Explain how the digital graphics meet the client brief and how own performance could be developed.

Indicative Content: Digital Graphics

Learning Outcome 1:

- Purpose: learners should investigate a range of digital graphics in both print and electronic format e.g. magazine covers, adverts, posters, cartoons, web images and graphics logos, signs, posters, packaging, web graphics, engineering drawings, manuals, imagery in movies and computer game etc and how they are used to communicate, invoke emotion, educate, advertise, promote, inform, entertain different audiences (e.g. age, gender, interest, need) etc.
- Features: bitmap image (photograph), or vector graphic text (logo), composition, use of colour and texture, size and position, characters and objects, file type and sizes, resolution.
- Bitmap or (raster): images are stored as a series of tiny dots called pixels, depict lifelike images, larger file sizes, enlargement can reduce quality (pixelated/blocky).
- Vector: consists of shapes, curves, lines, and text, used for abstract art such as logos, more scalable, smaller file sizes.
- File formats, e.g. jpeg, bmp, png, eps, wmf, pdf, proprietary formats, file compression, lossy and lossless, screen and print resolutions, storing and retrieving files, e.g. saving, import and export to other formats, file size considerations.
- Properties of images sourced from digital cameras, scanners, internet and photo libraries, to include pixel dimensions, resolutions and suitability for use in creating graphics.
- Properties of bitmap/raster images and vector-based graphics, the use of colour, composition and layout.
- Factors that influence audience, purpose, output (print/digital), use/organisation of graphic elements, cost, resource availability, legal responsibilities (accessibility).

Learning Outcome 2:

AC 2.1:

- The client brief should direct learners to produce both bitmap and a vector graphics to allow them to think about the creative aspects of the graphics (typography, colour and composition) as well as the technical in relation to photo-editing and vector-editing.
- Consideration of the purpose of the digital graphics learners will create by reviewing client brief when creating a design, the context in which the product will be used, target audience, what it is marketing or selling, what is the message to be communicated, style and tone of product delivery, e.g. humorous, formal, classic, youthful.
- Develop ideas using traditional drawing and recording skills to produce visuals for their digital graphics, research sources of information, to include: primary sources, e.g. observation drawings, varied textures, patterns, use of photography, secondary sources, e.g. books, magazines, internet imagery.
- Develop ideas for how the digital graphics will be used, for example, 2D digital publishing graphics, e.g. emagazines, DVD covers, promotional materials, moving image – motion graphics, e.g. title sequences for films, television, websites, e.g. educational, corporate, entertainment, digital 2D game, e.g. titles sequences, interface design for PC, handheld, consoles or mobile gaming.
- Identify and record sources of ready-made graphics/images, with permissions and implications of use in creating graphics (AC 2.3)

AC 2.2:

- Digital/traditional drawing techniques and mark-making skills, to include: using lines in a design, inserting different shapes, form and appearance of the design, using rendering techniques, adding shading to a design, using colour to enhance a design,

Indicative Content: Digital Graphics
creating an appropriate scale and perspective of design, using appropriate proportions to show visual relationships, creating focal points. **AC 2.3:** • Understanding of copyright and intellectual property law in relation to creative works, obtaining permission, acknowledging sources/referencing.
Learning Outcome 3: **AC 3.1:** • Digital tools and manipulation techniques: cropping, rotating, brightness/contrast, levels, colour adjustment, cloning, retouching, red eye removal, apply effects, filters, selections, use of layers, text, rendering, shadows, proportion, texture use, picking stock images, combining and merging multiple images, colour blending, extracting parts of images and combining, changing background colours. • Bitmap (photo-editing): scanning techniques and importing drawings, importing photographs, using image manipulation techniques such as: selecting, e.g. marquee, lasso, magic wand, save selections, copy, paste, drag and drop techniques, inserting colour, paintbrushes, bucket, opacity/transparency of colours and/or images, making effective adjustments to images, transforming images, layers and layer modes of designs, image filters, image cropping techniques, history of graphic use, flattening and merging layers. • Vector: drawing tools, e.g. pen, inserting text, using vector shapes, using paths to make shapes, outlining images, transformation of images, layering multiple images, using different image effects, paintbrushes, bucket, opacity/transparency of images. • Appropriate file format: for print, screen or web, e.g. bmp, png, gif, tif, jpg, psd, ai, swf, flv, use of compression (lossy, lossless), appropriate size and image resolution, different colour modes, e.g. RGB, CMYK, file extensions.
Learning Outcome 4: **AC 4.1:** • Learners should review the digital graphics against the client brief and obtain feedback on the quality of finished product and its fitness for purpose, the review should identify positives and negatives relating to the digital graphics, rather than the creation process. • Learner should include reflections on the digital graphics (strengths and areas for development), taking into account user feedback, own self-assessment, feedback from others (peers, tutors). • Suggested improvements to own work: more efficient or effective ways of working, ways to improve the design and prototype, develop own digital skills, planning, production, time management, etc.

Digital Skills Project

Level:	Level 1
Credit Value:	6
GLH:	48
Unit Number:	H/618/3647
Unit Aim:	Learners will develop the knowledge and skills to plan, develop and review a digital skills project.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Be able to propose ideas for a digital skills project.	1.1. Use different sources to generate ideas for a digital skills project. 1.2. Create a project proposal
2. Be able to plan a digital skills project.	2.1. Create a workable plan for the development of a digital skills project.
3. Be able to develop a digital skills project to meet proposal requirements.	3.1 Use appropriate tools and techniques to develop a digital skills project.
4. Present and review a digital skills project.	4.1 Present a digital skills project using appropriate format. 4.2 Review a digital skills project, making refinements, as necessary. 4.3 Outline the strengths and areas for development of the digital skills project and suggest improvements to own work.

Indicative Content: Digital Skills Project
Learning Outcome 1: **AC 1.1:** Identify a digital skills project, for example: animation, interactive media product, website, podcast, computer game, computer program. Research sources: • Primary sources (e.g. observation drawings, photographs, visits). • Secondary sources (e.g. practitioner research, books, websites, blogs). • Existing products (e.g. websites, games). • Generate ideas: style, purpose, audience needs, visual communication, key messages, design brief, client needs, identity, branding, mind maps, sketches, layout designs, concept art. **AC 1.2:** Project proposal: format (e.g. from a template, written, presentation), genre, working title, purpose, inspiration, content, research, timeline, resources.
Learning Outcome 2: • Workable plan: mind maps, storyboards, site map/structure, navigation/user interaction, content/assets, design layouts, technical requirements, resources, prototypes, resources, time management, budget.
Learning Outcome 3: • Develop digital skills project: creating content, importing resources, editing content/assets, authoring, alternative ideas, project management, saving files appropriately, exporting/publishing, keeping a production log, awareness of current legal and ethical issues, copyright legislation etc. • Safe working practices: importance of health and safety, working safely with digital devices and equipment, maintaining a safe working environment.
Learning Outcome 4: • Presentation formats: presentation, group presentation, critique, use of visual aids, effective communications, meeting initial intentions. • Learners should review the project against their proposal and obtain feedback on the quality of finished product and its fitness for purpose, the review should identify positives and negatives relating to the project, rather than the creation process. • Learner should include reflections on the project (strengths and areas for development), taking into account user feedback, own self-assessment, feedback from others (peers, tutors), user experience, analysing feedback, identifying areas of improvement. • Suggested improvements to own work: more efficient or effective ways of working, ways to improve the design, develop own digital skills, planning, production, time management, etc.

Digital Skills Project

Level:	Level 2
Credit Value:	6
GLH:	48
Unit Number:	K/618/3682
Unit Aim:	Learners will develop the knowledge and skills to plan, develop and review a digital skills project.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1 Be able to identify, select and plan for a digital skills project.	1.1 Justify choice and scope for a digital skills project. 1.2 Identify project aims and the actions needed to achieve them. 1.3 Outline skills needed to complete project. 1.4 Plan how to meet agreed deadlines.
2 Be able to carry out research for a digital skills project.	2.1 Identify different sources of information relevant to the project. 2.2 Select relevant and reliable information for use in project. 2.3 Reference sources of information and evidence appropriately.
3 Be able to undertake activities to develop a digital skills project.	3.1 Apply appropriate skills and knowledge to develop the project in line with project aims and plan.
4 Be able to present and evaluate a digital skills project.	4.1 Present project to a specific audience, using appropriate format and technical language. 4.2 Review project against aims and plan. 4.3 Review own performance, identifying strengths, weaknesses and areas for development.

Indicative Content: Digital Skills Project

Learning Outcome 1:

- Digital skills project, for example: promotional website, educational game, animation to raise awareness etc.
- Evidence may include witness statements, a personal log, notes of meetings, a video diary, blog/vlog.
- Aims may include: to improve teamwork, to raise fund for a charity, raise awareness, personal development, meeting client needs.
- Skills needed may include: improving technical skills, communication and interpersonal skills, organisational skills, the ability to motivate others, planning and scheduling, dealing with conflict/difficult situations, meeting with a client, leading a team.

Learning Outcome 2:

Sources of information may include:

- Primary sources (e.g. observation drawings, photographs, visits).
- Secondary sources (e.g. practitioner research, books, websites, blogs).
- Existing products (e.g. websites, games).

Relevant and reliable data will vary according to the project selected but may include: audience ratings, interview transcripts, questionnaire responses. Appropriate referencing: acknowledgement of author, title and date for books and journals, website URLs, full names and positions for information from people.

Learning Outcome 3:

- Evidence may include witness statements, a personal log, notes of meetings, a video diary, blog/vlog.
- Planning: mind maps, storyboards, site map/structure, navigation/user interaction, content/assets, design layouts, technical requirements, resources, prototypes, resources, time management, budget/costings.
- Development: creating content, importing resources, editing content/assets, authoring, alternative ideas, project management, saving files appropriately, exporting/publishing, keeping a production log, awareness of current legal and ethical issues, copyright legislation etc.
- Safe working practices: importance of health and safety, working safely with digital devices and equipment, maintaining a safe working environment.
- Personal skills and knowledge may include: carrying out own roles, taking on and completing tasks, providing information, communicating with others, working as a team, supporting others, responding to problems, providing feedback to others).

Learning Outcome 4:

- Presentation: presentation, group presentation, critique, use of visual aids, effective communications, meeting initial intentions, format and structure, style, formal/informal, audience, speaker notes, supporting handouts.
- Evaluation of own performance: attendance, reliability, team skills, working independently / self-motivation, communication skills, taking responsibility, meeting objectives, planning, organisation, and contingency.
- Review: strengths, weaknesses, meeting initial intentions.
- Review own performance: working to deadlines, skill development, resources, organisation, presentation, research skills.
- Improvements to own work: feedback from others, improvements to personal performance, improvements to production skills.

Games Design and Development

Level:	Level 1
Credit Value:	6
GLH:	48
Unit Number:	M/618/3652
Unit Aim:	In this unit, learners will develop an initial idea into a game prototype. They will create visuals to show what the game will look like, as well as a design proposal that outlines aspects of the game. They will then present their game prototype and review their performance.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1 Know about the purpose, types, and platforms for computer games.	1.1 Describe computer game types and platforms. 1.2 Identify aspects to consider when designing computer games.
2 Be able to generate ideas and plan a game design.	2.1 Use a range of information sources to research computer game design ideas. 2.2 Create a game design proposal and concept imagery. 2.3 Create an asset list of primary elements.
3 Be able to develop and present a game prototype.	3.1 Use tools and techniques to create a game prototype. 3.2 Present a game prototype using a suitable format.
4 Review the computer game design and prototype.	4.1 Outline strengths and weaknesses in design documents and game prototype. 4.2 Suggest improvements to own work and performance.

Indicative Content: Games Design and Development
Learning Outcome 1: **AC 1.1:** Purpose: education, entertainment, competition. Types: card games, board games, puzzles, maze, fighting, action, adventure, strategy, stealth, survival, sports, and simulation games. Platforms: consoles, PCs, handheld devices, smartphones, tablets, TV. **AC 1.2:** Theme, target audience, market demand/competition, 2D/3D, platform, resources, budget.
Learning Outcome 2: **AC 2.1:** • Primary sources (e.g. observation drawings, photographs, visits). • Secondary sources (e.g. practitioner research, books, websites, blogs). • Existing products (e.g. 2D games, 3D games, websites, apps, interactive TV). **AC 2.2, 2.3** The game design proposal should demonstrate ideas and provide basic information on the game, what that game is about and include details about target audience, genre, working title, purpose, inspiration, content, research, timeline, resources, platform. Concept imagery and assets for primary elements (characters, vehicles etc).
Learning Outcome 3: **AC 3.1:** Learners will include their planned assets into a suitable format and create some basic animation and interaction for a game prototype which should include: theme, visualisation, experimentation, script, storyboard, technical notes, annotated screenshots, use of sound. **AC 3.2:** Presentation formats: group/individual presentation, group critique, using visual aids, effective communication, collation of research, demonstration of prototype, audience interaction/feedback, meeting requirements.
Learning Outcome 4: Learner should include reflections on how well they worked to produce the design and prototype (strengths and areas for development). They should take into account: user feedback, own self-assessment, feedback from others (peers, tutors). Suggested improvements to own work and performance: more efficient or effective ways of working, ways to improve the design and prototype, develop own digital skills (graphics, presentation, etc).

Games Design and Development

Level: Level 2
Credit Value: 6
GLH: 48
Unit Number: T/618/3684
Unit Aim: In this unit, learners will develop an initial idea into a 2D or 3D game. They will create visuals to show what the game will look like, as well as a design specification that documents all aspects of the game. They will then create the assets for the game engine and add interaction to make a playable game. This unit also allows learners to obtain feedback on their work for review and further development.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Be able to understand different types of computer games.	1.1 Describe different types of computer games and their features. 1.2 Explain how different components are used in the design of a computer game.
2. Be able to design a computer game in response to a client brief.	2.1 Design a computer game with storyline, characters, and gameplay. 2.2 Produce a design specification in an appropriate format. 2.3 Create an asset list.
3 Be able to develop and test a computer game.	3.1 Edit game assets considering file formats, types, and naming conventions. 3.2 Render and import assets into game engine. 3.3 Develop a computer game for a specific platform using a game engine. 3.4 Test a computer game obtaining feedback from others.
4 Be able to review a computer game	4.1 Review how the game meets the client brief, making recommendations for further improvements. 4.2 Describe how own performance could be developed.

Indicative Content: Games Design and Development
Learning Outcome 1: • Different types of computer games: simulations, adventure, puzzle, action, combat, sports, educational. • Genres: first person shooter (FPS), real-time strategy, (RTS), role-playing games (RPG), Massively Multiplayer Online Role-Playing Games (MMORPG), Multiplayer Online Battle Arena (MOBA). • Features: gameplay, difficulty, feedback, multiplayer, challenges, online games. • Components: AI, graphics, audio, controller, motion sensing, GUI, fundamentals, characters, connectivity of elements, how character interacts with game. • Platforms: consoles (Xbox, PlayStation, Wii), PC/Mac, handheld devices, smartphones, tablets, TV, in relation to speed, connectivity, appropriateness for game, benefits/limitations. • Visual style: terrain, architecture, objects, characters, non-playing characters (NPC), feedback interface, perspectives (2D, 3D, first-person, third-person, scrolling, aerial, context-sensitive), full motion video (FMV). • Game play (what the player does):goals, e.g. what the player needs to achieve in the game, challenges, e.g. what the player must overcome, rewards, e.g. what the player will receive for completing goals or challenges, player actions, e.g. run, jump, rules, e.g. valid moves, how high the player can jump, game mechanics, e.g. inventory, scoring, win condition.
Learning Outcome 2: • Design specification must include a proposal, concept imagery and asset list to demonstrate ideas and provide detailed information on the game, what that game is about, information about the avatar used by the player, e.g. character, vehicle, cursor, what the game is about (story or context), maps of the levels, objectives, encounters, navigation, pickups, details of the game play (what the player actually does). • Learners should ensure their proposal is realistic and achievable with regards to time constraints, available resources, technical knowledge, skills and limitations and include details about target audience, genre, working title, purpose, inspiration, content, research, timeline, resources, platform, storyline, gameplay. • Concept imagery of primary elements, asset list for primary elements, e.g. character, locations, vehicles, creatures etc, concept art examples for primary assets, storyboard, moodboard, narrative.
Learning Outcome 3: **AC 3.1:** • Experiment with a variety of visual styles for primary assets to produce a visual concept for the game. The types of visual assets produced will vary depending on the type of game and the intended platform and will depend on whether the game is 2D or 3D. Learners should show consideration of copyright and attribution for third party assets. • Assets to include in 2D games: sprites (characters/avatar), matt paintings or pixel tiles for background, sprites (buildings and organic environment assets), graphics for interactive objects, e.g. doors, pickups, buttons, lifts, etc. • Assets to include in 3D games: 3D character models, 3D environment art assets – buildings, organic, e.g. trees, rocks, interactive objects, e.g. doors, vehicles, buttons/lifts, etc, textures for 3D assets and environment. • Sound assets: ambient sound, music, sound effects. • Animated assets: animated sprites, walk cycles.

Indicative Content: Games Design and Development
AC 3.2: • Edit assets as appropriate for game and platform, appropriate file size and poly/pixel counts (target platform specifications), appropriate file types: jpeg, psd, bmp, ase, obj, wav, mp3, appropriate naming conventions (each game engine will have specific rules on naming files), alpha channels for textures and sprites (correctly rendered), checking normals for 3D models (correct direction), for 3D engines only. • Import assets into the engine: 2D engines, e.g. Flash, RPG maker, IWGame and 3D engines, e.g. UnrealSDK, Unity, CryEngine. **AC 3.3:** Although 2D and 3D games will require different methods to create the game environment, the process is the same and should include: Setting up the level (initial settings, screen resolution/FPS (frames per second)/world size/additive or subtractive 3D world) Creating the environment: • 2D engines - interface, background imagery, e.g. fixed appearance, side scrolling • 3D engine - BSP (binary space partitions), grey box • Lighting - 2D transparency effects, 3D light placement, lighting effects • Atmospheric/decorative animation - swaying foliage, water surfaces, weather effects, fire and smoke, computer screens and machinery. Add scripts to create interactivity: scripted animation, e.g. cursor animation, adding triggers and events, scripted movers, e.g. animating doors, platforms , scripting buttons, e.g. actions, settings, to provide information, e.g. to obtain facts and statistics/interactive characters, dialogue/cursor information, mouse rollover states, movement, e.g. navigation keys, steering, weapon movement, player actions, e.g. run, jump, using colliders as triggers, text instructions, e.g. walk north, get key, pickups, scripting game mechanics, e.g. inventory, scoring, win condition. **AC 3.5:** Test game, the scripts, interactivity and gameplay functionality, make any necessary changes, optimise settings and publish the game for a specific platform, e.g. as an app for tablet and smartphones, exe for PC, etc, refine the game based on feedback.
Learning Outcome 4: Learner should include reflections on the quality and fitness for purpose of the design specification and game (strengths and areas for development), taking into account user feedback, own self-assessment, feedback from others (peers, tutors). Suggested improvements to own work: more efficient or effective ways of working, ways to improve the design and prototype, develop own digital skills (graphics, animation, game engines, etc)

Games Engines

Level: Level 2
Credit Value: 6
GLH: 48
Unit Number: A/618/3685
Unit Aim: Learners will investigate various game engines, their purpose and components to understand how they can be used to produce games. They will develop skills using a 2D or 3D games engine to plan and develop games. This unit also allows learners to obtain feedback on their work for review and further development.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand the purpose and components of games engines.	1.1 Explain the purpose and components of game engines. 1.2 Compare different game engines.
2. Be able to use a games engine to plan the development of a 2D or 3D game.	2.1 Create an overhead view for a 2D or 3D game level. 2.2 Identify where assets will be placed. 2.3 Identify locations for spawn points.
3. Be able to create a 2D or 3D game map.	3.1 Use a level editor to create a 2D or 3D game map. 3.2 Apply and position assets and spawn points on game map.
4. Be able to apply testing techniques to a 2D or 3D game map.	4.1 Carry out alpha testing, making corrections, as necessary. 4.2 Carry out beta testing obtaining feedback from others. 4.3 Refine game map, making suggestions for further improvements.

Indicative Content: Games Engines
Learning Outcome 1: **AC 1.1:** Types of game engine: 2D engines, 3D engines, mobile engines, game mods. Functions: graphic rendering, collision detection, artificial intelligence (AI), sound, scripting, animation, physics. Components: five main components, the main game program which contains the game logic, a rendering engine used to generate 3D animated graphics, an audio engine consisting of algorithms which are related to sounds, a physics engine to implement 'physical' laws, and artificial intelligence, a module designed to be used by software engineers with a specialist designation. **AC 1.2:** Unreal Engine one the most popular and widely used game engines, others include: Unity, GameMaker, Godot, AppGameKit, CryEngine, Amazon Lumberyard, RPG Maker.
Learning Outcome 2: Game map: popular technique in game development, consisting of building the game world or level map out of small, regular-shaped images called tiles, popular games that use this technique are Super Mario, Pacman, Sim City 2000. Level design: e.g. genre, interpreting creative brief, storyboarding, asset management, level design maps.
Learning Outcome 3: Assets: graphical (sprites, backgrounds, textures), behavioural (events, objects, scripts), sound e.g. effects, music, ambience, dialogue, file types e.g. bmp, gif, tiff, jpg, wav, midi, aiff, au, smp, mp3, ra, vox. Production: assets, actions, animation, game world, testing (alpha and beta, user testing).
Learning Outcome 4: Test, make any necessary changes, optimise settings, publishing (app for mobile devices or exe for PC), refinements based on feedback.

Interactive Media

Level:	Level 1
Credit Value:	6
GLH:	48
Unit Number:	A/618/3654
Unit Aim:	Learners will develop the knowledge and skills to plan, develop and review an interactive media product.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1 Understand interactive media products.	1.1 Identify the purpose of interactive media products. 1.2 Identify how the features of interactive media can improve the user experience.
2 Be able to design an interactive media product in response to a design brief.	2.1 Produce an outline design for an interactive media product.
3 Be able to develop and test an interactive media product.	3.1 Collect and edit assets and content. 3.2 Use tools and techniques to develop an interactive media product. 3.3 Test the interactive media product.
4 Be able to review an interactive media product.	4.1 Identify how the interactive media product meets requirements, making suggestions for further improvement.

Indicative Content: Interative Media
Learning Outcome 1: • Purpose: to present content to and engage an audience using a collection of assets, such as video and graphics, to provide an enhanced multi-sensory experience. • Uses: to present information, e.g. interactive slideshows, virtual tours, communicate with people, e.g. social networking, video conferencing, entertainment and leisure, e.g. computer games and movies, commerce, e.g. promotion of products and services, education, e.g. computer-aided learning, interactive assessments, develop skills, e.g. flight simulators. • Content: video clips, sound effects, music, animation, sequences and images, as well as text. • Types: linear products (presenting pages or screens to an audience in a pre-determined sequence, e.g. a slideshow or movie), interactive products (built in screen navigation and other features that allow users to interact with the product, e.g. computer games and simulations). • Features: ease of navigation, interactivity, appropriateness of content, game elements (i.e. light effects, characters), game play (i.e. scoring, levels, rules, controls), understand how these features are used to improve the user experience, for example, how sound effects are used in computer games, video clips are embedded in learning packages, or animations are used in information points.
Learning Outcome 2: • Ideas/prototypes that clearly indicate the idea and what the multimedia products might look like. • Storyboard, containing a number of panels, to illustrate the layout, content (including interactive features) and structure of the product. • Timelines for any animations and movie clips, with synchronised audio. • Sources tables identifying ready-made digital assets, e.g. animation, graphics, music and sound effects, voice over, video clips (also include details of any ready-made assets). • Test plan to test functionality, usability etc.
Learning Outcome 3: **AC 3.1:** • Edit assets (text, images and other graphics, video clips, e.g. cut and join together, add effects, navigation, e.g. menus, hyperlinks (internal and external), interactive components, e.g. hot spots, buttons, menus, rollover images, colour schemes, fonts and styles, animations, such as cut-out (i.e. tweens), rotoscoping and skeletal, audio, including synchronisation of sound effects, music and voice over. **AC 3.2:** • Use interactive media tools/techniques to: combine assets to create interactive media products, manage files and assets, e.g. resizing graphics and images, file size reduction, interactive components, including hotspots, buttons, rollover images, embed ready-made assets, format information, including text (e.g. font style, size, emboldened, bullets and colour), numbers, columns, images, and graphics, check content e.g. spell check, grammar check, print preview, proof read, store and retrieve files, e.g. create, name, open, save, save as.

Indicative Content: Interative Media
Learning Outcome 4: **AC 4.1:** • Test the interactive media product for functionality, quality and usability to assess effectiveness, content, presentation, interaction, usability, performance and purpose, make improvements and/or refinements in response to testing. **AC 4.2:** • Review the finished interactive media product in relation to: fitness for purpose, audience/user requirements, functionality, user experience. • Learner should include reflections on how well they worked (strengths and areas for development), taking into account user feedback, own self-assessment, feedback from others (peers, tutors). • Suggested improvements to own work: more efficient or effective ways of working, develop own digital skills (graphics, animation, video, etc).

Interactive Media

Level:	Level 2
Credit Value:	6
GLH:	48
Unit Number:	F/618/3686
Unit Aim:	Learners will develop the knowledge and skills to plan, develop, test, and review an interactive media product.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand interactive media products.	1.1 Explain the purpose, uses and features of different interactive media products. 1.2 Explain how the features of interactive media can be used to engage an audience and enhance usability.
2. Be able to design an interactive media product in response to a design brief.	2.1 Produce detailed design documentation for an interactive media product. 2.2 Source and collect assets and content and showing consideration of the legal implications whether ready-made or created.
3. Be able to develop and test an interactive media product.	3.1 Apply editing techniques to assets and content. 3.2 Apply tools and techniques to develop an interactive media product. 3.3 Export and publish the interactive media product into a suitable format.
4. Be able to review and refine interactive media product.	4.1 Test the interactive media product, make refinements and document changes. 4.2 Review how the interactive media product meets requirements, making suggestions for further improvements.

Indicative Content: Interative Media

Learning Outcome 1:

- Purpose: to present content to and engage an audience using a collection of assets, such as video and graphics, to provide an enhanced multi-sensory experience.
- Content: video clips, sound effects, music, animation, sequences and images, as well as text.
- Uses: to present information, e.g. interactive slideshows, virtual tours, communicate with people, e.g. social networking, video conferencing, entertainment and leisure, e.g. computer games and movies, commerce, e.g. promotion of products and services, education, e.g. computer- aided learning, interactive assessments, develop skills, e.g. flight simulators.
- Types: linear products (presenting pages or screens to an audience in a pre-determined sequence, e.g. a slideshow or movie), interactive products (built in screen navigation and other features that allow users to interact with the product, e.g. computer games and simulations).
- Features: ease of navigation, interactivity, appropriateness of content, game elements (i.e. light effects, characters), game play (i.e. scoring, levels, rules, controls), understand how these features are used to improve the user experience, for example, how sound effects are used in computer games, video clips are embedded in learning packages, or animations are used in information points.

Learning Outcome 2:

Learners must produce design documentation for either a linear or interactive product that includes:

- Ideas/prototypes that clearly indicate the idea and what the multimedia products might look like.
- Storyboard, containing a number of panels, to illustrate the layout, content (including interactive features) and structure of the product.
- Timelines for any animations and movie clips, with synchronised audio.
- Sources tables identifying ready-made digital assets, e.g. animation, graphics, music and sound effects, voice over, video clips (also include details of any ready-made assets), showing understanding of copyright and intellectual property law in relation to creative works, obtaining permission, acknowledging sources/referencing.
- Test plan to test functionality, usability etc.

Learning Outcome 3:

AC 3.1:

Edit assets (text, images and other graphics, video clips, e.g. cut and join together, add effects, navigation, e.g. menus, hyperlinks (internal and external), interactive components, e.g. hot spots, buttons, menus, rollover images, colour schemes, fonts and styles, animations, such as cut-out (i.e. tweens), rotoscoping and skeletal, audio, including synchronisation of sound effects, music and voice over.

AC 3.2:

Use interactive media tools/techniques to: combine assets to create interactive media products, export and compress assets into suitable file types and sizes.

AC 3.3:

Exporting and publishing: consideration of file size, rendering, optimisation, cross-platform, cross device compatibility, publishing (app for mobile devices or exe for PC).

Indicative Content: Interative Media
Learning Outcome 4: **AC 4.1:** Test multimedia products for functionality, quality and usability to assess effectiveness, content, presentation, interaction, usability, performance and purpose, make improvements and/or refinements in response to testing. **AC 4.3:** Review the finished interactive media product in relation to: fitness for purpose, audience/user requirements, functionality, user experience, e.g. usability, quality, performance, constraints, strengths and improvements. Learner should include reflections on how well they worked (strengths and areas for development), take into account user feedback, own self- assessment, feedback from others (peers, tutors). Suggested improvements to own work: more efficient or effective ways of working, develop own digital skills (graphics, animation, video, etc).

Photo Editing Software

Level:	Level 1
Credit Value:	3
GLH:	24
Unit Number:	Y/618/3662
Unit Aim:	Learners will understand how to use photo editing software to enhance and modify digital photos. They will develop the skills to correct photos and how to merge and combine photo elements to create digital images.

This unit has 2 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Be able to use photo editing software for a specific purpose.	1.1 Identify image properties and file formats used in photo editing software. 1.2 Navigate and customise the photo editing workspace.
2. Be able to adjust, modify and prepare digital images to meet requirements.	2.1 Use editing tools to correct a digital photo. 2.2 Manipulate and combine photo elements to create a new digital image. 2.3 Prepare digital images for publishing.

Indicative Content: Photo Editing Software
Learning Outcome 1: • Image (photo) properties: file size (in memory), pixel dimensions, resolution, colour space (RGB/CMYK), file name/format, print size, number of pixels, layers, channels, paths, etc. • File formats: JPEG (Joint Photographic Experts Group), TIFF (Tagged Image File Format), RAW, DNG (Digital Negative Format), PNG (Portable Network Graphics), GIF (Graphics Interchange Format), BMP (Bitmap), PSD (Photoshop Document). • Work space (will vary depending on software) but learners should be able to: explore and customise their work space/user interface, use the navigation tools, understand the difference between undo and the history panel, history brush, layers panel, channels panel.
Learning Outcome 2: Editing tools: • Quick edits for common problems: red eye, reducing noise, sharpening a photo, brightening and darkening an image, correcting image distortion, depth of field, applying filters and blurs, moving objects, adjusting facial features, adjusting perspective in an image. • Correction: cropping and straightening techniques, standard crop, non-destructive cropping, rotating with crop, straightening photos, perspective crop tool, image distortion. • Manipulation techniques: cropping, removing backgrounds, rotating, brightness/contrast, levels, colour adjustment, cloning, retouching, red eye removal, apply effects, filters, selections, use of layers, text, rendering, shadows, proportion, texture use, picking stock images, combining and merging multiple images, colour blending, extracting parts of images and combining, changing background colours. • Combine images together: combine/merge two photo elements into one image, placing an image inside of another, for example, placing an object on a different background. • Prepare files for publishing: create a flattened image and keep original layers, optimizing for the web, master file options, converting an image to CMYK, JPEG for printing.

Photo Editing Software

Level:	Level 2
Credit Value:	3
GLH:	24
Unit Number:	L/618/3691
Unit Aim:	Learners will understand how to use photo editing software to enhance and modify digital photos. They will learn how to select and layer photo compositions and develop the skills to enhance photos using colour correction and adjustment techniques. They will also learn how to merge and combine photo elements to create professional digital images.

This unit has 2 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Be able to use photo editing software for a specific purpose.	1.1 Explain the role of image properties and file formats in photo editing software. 1.2 Select and use appropriate canvas size, selection tools and layers to meet needs.
2. Be able to adjust, modify and prepare digital images to meet requirements.	2.1 Use different techniques to enhance digital photos. 2.2 Manipulate and combine different photo elements together to create a new digital image. 2.3 Prepare digital images for publishing.

Indicative Content: Photo Editing Software
Learning Outcome 1: • Image (photo) properties: file size (in memory), pixel dimensions, resolution, colour space (RGB/CMYK), file name/format, print size, number of pixels, layers, channels, paths, etc. • File formats: JPEG (Joint Photographic Experts Group), TIFF (Tagged Image File Format), RAW, DNG (Digital Negative Format), PNG (Portable Network Graphics), GIF (Graphics Interchange Format), BMP (Bitmap), PSD (Photoshop Document). • Work space (will vary depending on software) but learners should be able to: explore and customise their work space/user interface, use the navigation tools, understand the difference between undo and the history panel, history brush, layers panel, channels panel. • Canvas size: to match needs, image menu to increase the canvas size, using the crop tool to increase the canvas, use fill option to replace empty area. • Create and save selections using tools and layers: elliptical marquee tool, moving and duplicating selections, magic wand tool, lasso and polygon lasso tool, magnetic lasso tool, quick selection tool, combining selection tools, quick mask, cropping, select and mask, channels panel, create a shadow, merging layers.
Learning Outcome 2: Techniques: • Correction: cropping and straightening techniques, standard crop, non-destructive cropping, rotating with crop, straightening photos, perspective crop tool, image distortion. • Retouch and repair: spot healing brush, cloning tools, content aware tools, sponge tool, dodge and burn tools. • Quick edits for common problems: red eye, reducing noise, sharpening a photo, brightening and darkening an image, correcting image distortion, depth of field, applying filters and blurs, moving objects, adjusting facial features, adjusting perspective in an image. • Manipulation techniques: cropping, removing backgrounds, rotating, brightness/contrast, levels, colour adjustment, cloning, retouching, red eye removal, apply effects, filters, selections, use of layers, text, rendering, shadows, proportion, texture use, picking stock images, combining and merging multiple images, colour blending, extracting parts of images and combining, changing background colours. • Combine images together: combine/merge a number (minimum of four is recommended) of photo elements into one image, placing an image inside of another, for example, placing a number of objects on a different background. • Features of type: point type, paragraph type, switching between point to paragraph type, type on a path, warp, rasterising text, characters panel, change the type colour, paragraph panel. • Prepare files for publishing: create a flattened image and keep original layers, optimizing for the web, master file options, converting an image to CMYK, JPEG for printing.

Website Design

Level:	Level 1
Credit Value:	6
GLH:	48
Unit Number:	A/618/3668
Unit Aim:	Learners will learn how to create a simple website using tools and techniques to add functionality, navigation buttons and hyperlinks. Learners will also develop skills in planning and designing a website and once complete they will review the finished website and make suggestions for improvement.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Know the uses and features of websites.	1.1 Identify the purpose and features of websites. 1.2 Identify how the features of websites can improve the user experience.
2. Be able to design a website for an audience and purpose	2.1 Produce an outline design for a website.
3. Be able to create a website.	3.1 Collect and prepare assets and content. 3.2 Use tools and techniques to create a website.
4. Be able to test and review a website.	4.1 Test the website. 4.2 Identify how the website meets requirements and make recommendations for further improvements.

Indicative Content: Website Design
Learning Outcome 1: **AC 1.1** • Purpose: includes the objectives of the website and audience type, used to present information through a series of HTML web pages, for example, a website could be used to promote an event, to advertise or to provide information for a business or charity, information includes text, graphics, video or other digital assets. • Uses: presenting information, browsing and searching for real-time information, improving productivity (collaborative working), media sharing (e.g. listen to live radio, watch films) online shopping and banking), education and training (e.g. libraries, online learning, assessments), downloading information. • Features: hyperlinks, action buttons, hot spots, templates, email links, registration and logins, forms (user input and feedback), accessibility, e.g. text to speech, e-commerce facilities, online forums, aesthetics, e.g. colours, layout, graphics/video/animation, audio, text, styles. **AC 1.2** • Inserting digital assets to make it more interactive (but using them wisely), using whitespace and applying consistent layout, navigation and themes make it more aesthetically appealing/engaging, using forms allow users to leave feedback etc.
Learning Outcome 2: • Design should include: site structure or sitemap for a 4-5 page website, showing navigation (how each webpage links together), screen layout design for each webpage, using wireframe and including, e.g. images, buttons text, font, colour and navigation, annotations and/or a description about how the design meets audience and purpose, sources tables identifying digital assets to be included, (also include details of any ready-made assets), test plan to test functionality, usability etc.
Learning Outcome 3: • Software tools available: HTML editor, WYSIWYG, or text editors, web page structure, e.g. header, main content and footer, page navigation, e.g. jump-to-top link or text links at the top and bottom of the page or to move to the previous page and a location-based breadcrumb trail, linking web pages with hyperlinks, common HTML tags, e.g. <img>, <a>, <p>, embedding and editing readymade assets, formatting information, including text (e.g. font style, size, emboldened, bullets and colour), numbers, columns, images, and graphic, interactive components, including hotspots, buttons, rollover images, editing techniques appropriate to the type of asset, e.g. copy, cut, paste, crop, and position, manage files and assets, e.g. resizing graphics and images, file size reduction, check content, e.g. spell check, grammar check, proof read, print preview, store and retrieve files, e.g. create, name, open, save, save as.
Learning Outcome 4: **AC 4.1:** • Test the website for functionality, quality and usability to assess effectiveness, content, presentation, interaction, usability, performance and purpose, make improvements and/or refinements in response to testing. **AC 4.2:** • Review the finished website in relation to: fitness for purpose, audience/user requirements, functionality, user experience. • Learner should include reflections on how well they worked (strengths and areas for development), taking into account user feedback, own self-assessment, feedback from others (peers, tutors).

Indicative Content: Website Design
• Suggested improvements to own work: more efficient or effective ways of working, develop own digital skills in web design/development, graphics, etc).

Website Design and Development

Level: Level 2
Credit Value: 6
GLH: 48
Unit Number: M/618/3697
Unit Aim: Learners will investigate website design and plan, design and create their own website in response to a client brief. They will test and refine the website against the client brief and review their own performance.

This unit has 5 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand website fundamentals.	1.1 Describe different types of websites and their key features. 1.2 Explain how and why different principles are used in the design of a website.
2. Be able to design a website for an audience and purpose.	2.1 Present a design proposal for a website.
3. Be able to produce planning documentation for a website in response to a client brief.	3.1 Produce planning documentation for a website.
4. Be able to create a website.	4.1 Create a website in line with design proposal and planning documentation. 4.2 Publish a website to a web server.
5. Be able to test, review and refine a website for functionality and usability.	5.1 Create a test plan to test the website, making refinements where necessary. 5.2 Collect and present feedback on website. 5.3 Explain how the website meets the client brief and how own performance could be developed.

Indicative Content: Website Design and Development
Learning Outcome 1: • Types: information based, entertainment, advertising, promotional, educational, commercial, product based, service based. • Features: Domains, hosting, content, target audience, functionality, cookies, legal issues, security issues, accessibility. • Principles: Purpose, usability, typography, colours, white space, page layout, navigation, responsive web design. • Technologies and tools: HTML, CSS, JavaScript, Web 2.0, FTP, validation tools, google analytics, search engine optimisation.
Learning Outcome 2: Design proposals: client requirements, content, target audience, functionality, budget, deadlines, professionalism.
Learning Outcome 3: Planning: importance of planning, ideas generation, mind maps, sketches, layout, storyboarding, moodboards, sitemap, file structure, navigation, content, colour, style, typography, time management, technical considerations.
Learning Outcome 4: • Asset sourcing: sourcing/creating/editing assets, images, animation, audio, video, interactive elements, creative commons, copyright. • Production: software, HTML, CSS, JavaScript, document object model, tags, elements, attributes, layout techniques, formatting content, navigation, hyperlinks, images, rollover images, embedding, forms, cross browser compatibility, responsive web design, W3C standards. • Publishing: file management, uploading, file transfer protocol.
Learning Outcome 5: • Testing: test plans, user testing, broken hyperlinks, cross browser compatibility, responsive web design, validation. • Learners should review the website against the client brief and obtain feedback on the quality of finished product and its fitness for purpose, the review should identify positives and negatives relating to the website, rather than the creation process. • Learner should include reflections on the website (strengths and areas for development), taking into account user feedback, own self- assessment, feedback from others (peers, tutors), user experience, analysing feedback, identifying areas of improvement. • Suggested improvements to own work: more efficient or effective ways of working, ways to improve the design, develop own digital skills, planning, production, time management, etc.

Social Media Marketing

Level:	Level 1
Credit Value:	3
GLH:	24
Unit Number:	H/618/3664
Unit Aim:	In this unit learners will learn how social media marketing is used to promote products and services. They will know the characteristics of different audiences and how social media channels and platforms can be used to engage with them. Learners will create and plan social media marketing activities and draft content to promote a product or service to an audience.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Know about social media marketing.	1.1 Outline how social media can be used to market products and services 1.2 Describe different social media marketing channels and platforms.
2. Know how social media marketing can be used to engage with audiences.	2.1 Outline the characteristics of different audiences. 2.2 Identify how social media marketing can be used to engage with different audiences.
3. Be able to plan social media marketing activities to promote a product or service.	3.1 Explore different ideas for social media marketing activities to meet objectives. 3.2 Create an outline plan for social media marketing activities. 3.3 Draft content for social media marketing activities.

Indicative Content: Social Media Marketing
Learning Outcome 1: • Social media marketing: using digital technologies and social media channels and platforms to market products or services and to reach different audiences. • Products: automotive, clothing, electrical appliances, food and grocery, footwear, electrical goods, homeware, music and video, personal care. • Services: car repairs, tailoring, medical check-ups, mail delivery, banking, education. • Promote products or services to target audiences in line with overall business objectives, generate brand awareness, generate sales, increase leads, attract and inform target audiences, raise awareness, generate web traffic, set SMART (specific, measurable, achievable, realistic, time-bound) social media marketing objectives. • Digital technologies: smartphone/mobile apps, email marketing, social media marketing, content marketing, online public relations, search engine optimisation (SEO), affiliate marketing, organic, referral, pay per click (PPC), display ads on websites. • Channels: websites, social media, blogs/vlogs, podcasts, email, electronic billboards, online polls, online communities etc. • Platforms: Facebook, Twitter, Instagram, LinkedIn etc.
Learning Outcome 2: **AC 2.1:** • Audience characteristics: demographic; age, gender, family size, income, housing, jobs, geographic; country, country region, city, online behaviours; surfing and online shopping habits and other related information, e.g. tenure and amount of online usage, types of usage, connection speed, digital device. **AC 2.2:** • Facebook, Twitter, Instagram, LinkedIn etc via, email marketing, social media marketing, content marketing, online public relations, search engine optimisation (SEO), affiliate marketing, organic, referral, pay per click (PPC), display ads on websites, blogs/vlogs, podcasts, electronic billboards, online polls, online communities etc.
Learning Outcome 3: • Ideas should be focused around the objectives in line with purpose and audience, researching/defining audience, and competition, creating and post engaging content, frequency of content/posts, type of media (text, image, video etc). • Plan should cover the 5Ws, why use social media (increase brand awareness, increase web traffic, generate new leads, grow revenue (by increasing signups or sales), boost brand engagement), who is the target audience (audience profile), what is going to be shared, where (which channels/platforms) and when? • Content: appropriate for audience, technology, channel and platform, meeting campaign objectives, assessing appropriateness of design for selected products and services to target specific audiences • Using tools with consideration of colour, font and icons, image creation, sourcing and editing, etc. • Using design techniques such as timelines, storyboards, generating lists of assets, etc.

Social Media Marketing

Level: Level 2

Credit Value: 3

GLH: 24

Unit Number: D/618/3694

Unit Aim: In this unit learners will learn how social media marketing is used to promote products and services. They will understand how digital technologies, channels and platforms are used in social media marketing campaigns and develop ideas and strategies to create and present a social media marketing campaign proposal for a particular product or service.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand the role of social media marketing.	1.1 Explain how social media can be used to engage with audiences and market products and services. 1.2 Explore how search engine optimisation (SEO) is used in social media marketing. 1.3 Explain how analytic tools are used in social media marketing.
2. Understand how social media marketing campaigns can be used to engage with audiences.	2.1 Describe how social media marketing campaigns use digital technologies, channels, and platforms. 2.2 Explain the importance of market research when planning social media marketing campaigns.
3. Be able to create a proposal for a social media marketing campaign to promote a product or service.	3.1 Research ideas for a social media marketing campaign to meet objectives. 3.2 Develop content for a social media marketing campaign. 3.3 Create and present a social media marketing campaign proposal.

Indicative Content: Social Media Marketing

Learning Outcome 1:

- Social media marketing: using digital technologies and social media channels and platforms to market products or services and to reach different audiences.
- Products: automotive, clothing, electrical appliances, food and grocery, footwear, electrical goods, homeware, music and video, personal care.
- Services: car repairs, tailoring, medical check-ups, mail delivery, banking, education.
- Promote products or services to target audiences in line with overall business objectives, generate brand awareness, generate sales, increase leads, attract and inform target audiences, raise awareness, generate web traffic, set SMART (specific, measurable, achievable, realistic, time-bound) social media marketing objectives.
- Search Engine Optimisation (SEO): increases online traffic, pay-per-click (PPC), display, email, social, affiliate, mobile, customer reach, customer acquisition, meta tags, analytical tools, budget.
- Web analytic tools: measuring qualitative and quantitative data to gain customer insights, measuring web analytic data such as, page views, visits, bounce rate, session duration, demographics, device type tracking, traffic source, browser and operating system, language and location, keyword analysis, goal conversion.
- Social media analytic tools: measuring key performance indicators (KPIs), views, subscribers, likes/dislikes, comments, favourites, sharing online community allowing users to pin and share photos of items found on the internet, e.g. followers, number of boards, number of pins, likes, repins, comments, internet service allowing users to post messages and images for their followers to see, e.g. followers, retweets, replies, clicks and click-through rate (CTR), impressions o online social networking site allowing users to create personal profiles, share photos and videos, and communicate with other users, e.g. total likes, reach, engaged users, people talking about this (PTAT), comments, shares.
- Using appropriate methods to present analytical data, e.g. reports, tables, charts, graphs.

Learning Outcome 2:

AC 2.1:

- Digital technologies: smartphone/mobile apps, email marketing, social media marketing, content marketing, online public relations, search engine optimisation (SEO), affiliate marketing, organic, referral, pay per click (PPC), display ads on websites.
- Channels: websites, social media, blogs/vlogs, podcasts, email, electronic billboards, online polls, online communities etc.
- Platforms: Facebook, Twitter, Instagram, LinkedIn etc.

AC 2.2:

- Market research is important for: market analysis (brand awareness, increase sales, customer retention, cost per lead, conversation rate, key performance indicators (KPIs), audience segmentation, audience needs, media preferences), and value proposition (demographic; age, gender, family size, income, housing, jobs, geographic; country, country region, city, online behaviours; surfing and online shopping habits and other related information, e.g. tenure and amount of online usage, types of usage, connection speed, digital device.

Indicative Content: Social Media Marketing
Learning Outcome 3: • Ideas should be focused around clear aims and objectives in line with purpose and audience, researching/defining target audience and competition, creating and post engaging content, frequency of content/posts, type of media (text, image, video etc). • Proposal must justify choices for identified strategies, for example, coverage of the 5Ws, why use social media (increase brand awareness, increase web traffic, generate new leads, grow revenue (by increasing signups or sales), boost brand engagement), who is the target audience, what is going to be shared, where (which channels/platforms) and when? • Content: appropriate for audience, technology, channel and platform, meeting campaign objectives, assessing appropriateness of design for selected products and services to target specific audiences. • Using tools with consideration of colour, font and icons, image creation, sourcing and editing, etc. • Using design techniques such as timelines, storyboards, generating lists of assets, etc. • Presentation formats: group/individual presentation, group critique, using visual aids, effective communication, collation of research, audience interaction/feedback, meeting requirements.

Cybersecurity

Level:	Level 1
Credit Value:	6
GLH:	48
Unit Number:	Y/618/3631
Unit Aim:	Learners will learn about cybercrime and the risks and effects it has on individuals and organisations. They will understand routine protective methods used to maintain cybersecurity including the principles of vulnerability and penetration testing and user access control.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Know about cybercrime.	1.1 Identify different forms of cybercrime and possible motives. 1.2 Outline how cybercrime can affect individuals and organisations. 1.3 Describe the tactics cybercriminals use to defraud people.
2. Know about protective methods to maintain cybersecurity.	2.1 Identify routine protective methods to maintain cybersecurity 2.2 State the importance of cybersecurity testing. 2.3 Set up user access controls.
3. Know about legislation and codes of conduct related to cybersecurity.	3.1 Identify protections for and responsibilities of individuals and organisations as set out in key legislation. 3.2 Describe ethical and unethical conduct in relation to cybersecurity.

Indicative Content: Cybersecurity

Learning Outcome 1:

Common forms of cybercrime and motives:

- Phishing: using fake email messages to get personal information
- Stealing/misusing personal information (identity theft)
- Hacking: accessing, shutting down or misusing websites, networks, and IT systems
- Advocating terrorism-related acts
- Email and internet fraud
- Theft of financial or card payment data
- Theft and sale of corporate data
- Cyberextortion (demanding money to prevent a threatened attack)
- Ransomware attacks
- Denial-of-Service (DoS) attack
- Cryptojacking (where hackers mine cryptocurrency using resources they do not own)
- Cyberespionage (where hackers access government or company data)

AC 1.3:

- Social engineering: relies on human instinct of trust, carefully worded email, voicemail, or text message from a cybercriminal can convince people to transfer money, provide confidential information, or download a file that installs malware.

Tactics to defraud:

- Phishing: tactics include deceptive emails, websites, and text messages to steal information.
- Spear phishing: email is used to carry out targeted attacks against individuals or businesses.
- Baiting: an online and physical social engineering attack that promises the victim a reward.
- Malware: victims are tricked into believing that malware is installed on their computer and that if they pay, the malware will be removed.
- Pretexting: uses false identity to trick victims into giving up information.
- Vishing: urgent voice mails convince victims they need to act quickly to protect themselves from arrest or other risk.
- Learners could refer to a ‘real world’, for example, by looking at each other’s social media accounts to identify information that could potentially be used to defraud their peers.

Learning Outcome 2:

AC 2.1

- Protective methods: practicing diligence, installing appropriate anti-virus software, installing other appropriate security software, turning on firewall, protecting personal information, browser safety, client software, frequent and regular updating, care with email attachments, not opening pop ups, avoiding emails from unknown sources, not visiting suspect sites, anti-malware software, use and protection of passwords, data protection (personal/financial information), restricting access, regular backups.

AC 2.2:

- Cyber security testing: measures the effectiveness of security measures against a potential attack, can be manual or automated, vulnerability testing to reduce the possibility for intruders (hackers) to get unauthorised access, penetration testing (ethical hacking).

Indicative Content: Cybersecurity
• Purpose: to test an IT system, network or web application to find security vulnerabilities that a cybercriminal could exploit. **AC 2.3:** • User access controls: learners could do this by setting up user access control on a network or operating system. For example, a cloud-based application could be used to set up shared folders, learners could set various permissions, including some with restricted access.
Learning Outcome 3: **AC 3.1:** • Current UK legislation that applies to different IT systems and data. • The principles and requirements of the data protection legislation (The Data Protection Act, 2018, GDPR) and its impact on organisations, IT systems and data. • Computer Misuse Act 1990, its definitions of illegal practices and the impact it has on organisations, IT systems and data. • Other legislation could include: Official Secrets Act 1989, The Privacy and Electronic Communications Regulations 2003. **AC 3.2:** • Ethical conduct could include: adherence to organisational IT policies and procedures, maintaining confidentiality, adherence to applicable laws, promoting information security, refraining from conflicts of interest. • Unethical conduct could include: sabotage, disclosing or misusing confidential information, maliciously injuring the reputation or prospects of an individual or organisation.

Cybersecurity

Level:	Level 2
Credit Value:	6
GLH:	48
Unit Number:	L/618/3674
Unit Aim:	Learners will investigate the accidental and malicious security threats that exist to IT systems and data. They will learn about system vulnerabilities and the tools and techniques used to protect users from risks and potential damage, including loss of data, loss of data integrity and unauthorised access to data.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand security protection and risk management issues.	1.1 Describe the types of threat to IT systems and data. 1.2 Explain the factors that affect the vulnerability of IT systems and data.
2. Understand measures to protect IT systems and data from current and evolving threats.	2.1 Explain measures to protect IT systems and data from current and evolving threats. 2.2 Compare different physical security measures used to protect IT systems and data.
3. Be able to implement measures to protect IT systems and data.	3.1 Create a user access control system to restrict unauthorised access. 3.2 Demonstrate how ethical hacking can be used to protect IT systems and data.
4. Understand current legal and ethical requirements, and IT security policies and procedures.	4.1 Summarise the legal requirements and IT security policies and procedures that exist to protect IT systems and data. 4.2 Explain ethical and unethical conduct when using IT systems.

Indicative Content: Cybersecurity

Learning Outcome 1:
AC 1.1: Internal threats to systems and data may arise from the actions of employees or by an authorised user.

Accidental threats:

- Accidental damage to physical equipment caused by employee/user
- Accidental loss of data/power, unintentional disclosure of data, authorised user action
- Physical damage, destruction by fire, flood or other disaster
- Risk of bring your own device (BYOD)
- Unsafe practices
- The use of external storage devices/media
- Visiting untrusted websites
- Downloading/uploading files to/from the internet
- File-sharing applications.

Malicious threats:

- Malicious damage caused by employee/unauthorised user action
- Intentional deletion/editing of data and intentional disclosure of data
- Dumpster diving and shoulder surfing
- Theft of equipment or data
- Malicious damage to equipment or data
- Unauthorised access by employees to secure areas in a building
- Unauthorised access to administration functions, security levels and protocols, users overriding security controls
- Risk of BYOD.

External threats to systems and data may arise when the internet is used to access IT systems and data, or as a result of the actions of unauthorised people, malicious software, theft or physical damage.

Malicious software (malware) used to obtain secure information, viruses, worms, Trojans, ransomware, spyware, adware, rootkits, backdoors, botnets, zero-day attacks.

Unauthorised access by individuals, commercial organisations or governments.

Social engineering used to obtain secure information by deception, to include collection of passwords, data theft, scams, phishing, pharming, dumpster diving and shoulder surfing.

Damage or destruction by fire.

Malicious damage to equipment or data.

Evolving threats:

- New threats that are constantly being developed/existing threats that evolve over time.
- Importance of organisations/users applying regular updates either automatically or manually.

Indicative Content: Cybersecurity
• Support and information is available for organisations/users on known hardware and software vulnerabilities from manufacturers' help facilities, user forums, FAQs, online tutorials. **AC 1.2:** Vulnerabilities: • Types of system: individual devices, including PCs, laptops, mobile devices, portable storage devices, networks, including local area network • (LAN), wireless local area network (WLAN), file servers, cloud computing systems, online storage, remote server, online software. • Connection between systems: connection to the internet, connection to internal networks. • Connection methods: wired/wireless (Wi-Fi, Bluetooth, cellular) • Interactions between devices: use of storage devices. • Operating systems: unsupported versions, updates not installed, mobile devices' reliance on original equipment manufacturers (OEM) to update system software, legacy systems. • Software: zero-day vulnerability, downloads, untrusted sources, illegal copies. • Users: limitations of understanding.
Learning Outcome 2: **AC 2.1:** Software and hardware based protection methods including: • Antivirus software and detection techniques, virus signatures, heuristic techniques, techniques for dealing with identified threats. • Software and hardware firewalls and the filtering techniques they use, inbound and outbound rules and network addressing. • User authentication methods and processes and their advantages and disadvantages: types of biometric authentication (fingerprint, retina, facial recognition), two-step/multi-factor verification (MFA), security tokens, including USB-based keys, knowledge-based authentication, including question and response pairs, certificate-based authentication, digital signature, Completely Automated Public Turing Test To Tell Computers and Humans Apart (CAPTCHA). • Login procedures: username and password, rules for password security, best practice for password complexity/strength, graphical password, password history and time between password changes, account lockout and password reset procedures. • Access controls to restrict user access to: applications, folders/shared areas, files – files' access rights (read only, full access (read/write/execute), read/write, no access), physical resources (access to peripheral devices). • Protection of data during transmission: virtual private network (VPN), encryption, digital signatures. • Encryption of files, folders, disks. • Precautions that can be taken to secure a wireless local area network (WLAN), including: wireless encryption – wired equivalent privacy (WEP), Wi-Fi protected access (WPA2) and Wi-Fi protected setup (WPS), wireless MAC address filtering and hiding the service set identifier (SSID). **AC 2.2:** • Comparing the types, characteristics, benefits and risks, their advantages and disadvantages, and the effectiveness of different physical security measures used to protect IT systems and data.

Indicative Content: Cybersecurity
• Building and IT/network room security: site security locks, card entry, passcode, biometrics– fingerprint, retina, facial recognition, closed circuit television (CCTV), security staff, alarms. • Data storage: data protection methods, central storage. • Backup procedures: selection of data, timing, frequency, media, planned, automated and manual, type (full, differential, and incremental), on- site, off-site and cloud data storage. • User/individual actions: logging out of applications, logging off machines, screen locking, shoulder surfing prevention, shredding documents.
Learning Outcome 3: **AC 3.1:** • Learners need to create a user access control system on a network or operating system. For example, a cloud based application could be used to set up shared folders. Learners could set various permissions also showing how an individual sharing folder may differ to how a business shares folders. Learners should also demonstrate username and password allocation, and how administrator level access can block users from installing unauthorised applications/software and making system changes that could compromise security. **AC 3.2:** • Learners need to show how the use of ethical hacking and penetration tools supports cybersecurity by performing a range of activities such as port scanning, vulnerability scanning and password cracking.
Learning Outcome 4: **AC 4.1:** • Current UK legislation that applies to different IT systems and data. • The principles and requirements of the data protection legislation (The Data Protection Act, 2018, GDPR) and its impact on organisations, IT systems and data. • Computer Misuse Act 1990, its definitions of illegal practices and the impact it has on organisations, IT systems and data. • Other legislation could include: Official Secrets Act 1989, The Privacy and Electronic Communications Regulations 2003. • Learners need to be aware IT policies will vary from organisation to organisation but will include procedures that cover the following: • Organisation policies (Acceptable Use Policy): internet and email use, security and password procedures (system making you change password frequently) staff responsibilities for the use of IT systems, staff IT security training. • Backup procedure and policies (advantages and disadvantages and purposes): frequency, media, planned, automated and manual, type (full, differential, and incremental), on-site/off-site/cloud. • Data protection and disaster recovery policy. **AC 4.2:** • Ethical conduct could include: adherence to organisational IT policies and procedures, maintaining confidentiality, adherence to applicable laws, promoting information security, refraining from conflicts of interest. • Unethical conduct could include: sabotage, disclosing or misusing confidential information, maliciously injuring the reputation or prospects of an individual or organisation.

Introduction to Networking

Level:	Level 1
Credit Value:	6
GLH:	48
Unit Number:	J/618/3656
Unit Aim:	Learners will explore the features and uses of networks, the hardware and software required and how data is transferred. They will use their findings to design, develop and test a network to meet user requirements.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Know about the features and uses of networks.	1.1 Identify the features and uses of networks. 1.2 Outline the hardware and software components required for a network. 1.3 Describe how data is transferred across a network.
2. Be able to design a network to meet user requirements.	2.1 Produce a design for a computer network to meet a specific purpose and user requirements.
3. Be able to develop, test and review a network.	3.1 Gather components to develop a network. 3.2 Test the network for connectivity. 3.3 Identify how well the network meets purpose and user requirements.

Indicative Content: Introduction to Networking

Learning Outcome 1:
AC 1.1:
Use of networks:

- Communication (email, instant messaging, social networking, blogs, forums, wikis, web conferencing)
- Sharing hardware resources (internet, printer, scanner, storage, processing power)
- Exchanging information (files, data and other types of information)
- Multi-user environments (gaming, collaborative working)
- Storage (files, data centres)
- Applications (online databases, online spreadsheets, intranet, extranet).

Features of networks:

- Connection method (wired and wireless)
- Scope or scale (Local Area Network (LAN), Wide Area Network (WAN), Metropolitan Area Network (MAN), Personal Area Network (PAN),
- Storage Area Network (SAN))
- Architecture (peer-to-peer, client-server)
- Topology, including: physical (star, bus, ring, mesh, tree and point-to-point), logical (Ethernet and token ring)
- Protocols and their function (Ethernet, Internet Protocol (IP), Transmission Control Protocol (TCP))
- Security (with regard to files, folders, data, network access, resources)
- Utilities (virus protection, access control, backup, remote desktop)
- Services (login, user account management, file/folder permissions to an individual user/group of users, security, software deployment)
- Users (individuals or groups of people arranged in different ways for different uses).

AC 1.2:
Hardware components: computer systems/workstations/servers, network adapters (wired/wireless), router (wired/wireless), hub, switch, network cabling (fibre optics, UTP, STP, coaxial; connectors).

Software components: operating system with appropriate utilities capable of operating in a network environment, applications (browsers, firewalls, email, antivirus, network utilities (remote management), office applications),

AC 1.3:
Packet routing, transmission modes (half duplex, duplex, serial and parallel) and transfer rates.

Learning Outcome 2:

- Network design should include: list of hardware and software components, the number of network users, outline network diagram, test plan.
- User requirements to include: purpose, details of the users and their roles/function (including number of users), size/geographical spread/location, costs (budget), constraints, for example, user requirements could specify a network with at least two network users, network users sharing one folder and three files.

Learning Outcome 3:
AC 3.1:

- Components to gather to develop network(if appropriate and resources available): a minimum of two computer systems/workstations/clients, a server, network adapters

Indicative Content: Introduction to Networking
(wired or wireless), network cabling (if wired), a hub/router/switch (if networking more than two computer systems/workstations/clients), a server operating system (if building a client-server network), operating system (adding/removing/amending users, sharing files and folders, setting access permissions to files and folders, installing applications, sharing hardware resources, i.e. printer or any other network device), utilities (remote desktop management, user rights, access control, firewall configuration, anti-virus, scheduling). • If no hardware and software resources are available learners can use simulated software, such as Packet Tracer https://www.netacad.com/courses/packet-tracer • Consideration of health and safety issues when developing a network: hardware, electrical connection risks and guidelines, handling equipment. **AC 3.2:** • Test the computer network for functionality/connectivity using command tools, such as ipconfig and ping (reliability, performance, e.g. time to transfer a file across the network). • Use the range of utilities/services provided by the operating system to test other aspects of the network (e.g. shared resources, user accounts, access control, file/folder permissions). **AC 3.3:** • Review the network against: purpose, user requirements, user experience (reliability, performance), constraints (hardware and software availability).

Networking

Level:	Level 2
Credit Value:	6
GLH:	48
Unit Number:	J/618/3690
Unit Aim:	Learners will learn about different network types and the standards that relate to them. They will also develop an understanding of the key components, protocols and applications that support networking in order to configure a network to meet organisational requirements.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand network components, protocols, and applications.	1.1 Explain the components and applications used in networking. 1.2 Explain the role of network topologies, standards, and protocols in networking. 1.3 Explain how network applications and software support networking.
2. Be able to configure a secure network.	2.1 Configure a network to meet organisational requirements. 2.2 Modify the network in response to feedback. 2.3 Apply and configure network security.
3. Be able to troubleshoot and review a network.	3.1 Troubleshoot a network and respond appropriately to any errors or problems. 3.2 Review how the network meets requirements, making suggestions for further improvements.

Indicative Content: Networking
Learning Outcome 1: Types of networks, how they are used and configured, to include: client server, peer to peer, internet, mobile. Interconnection devices (hardware): routers (wired and wireless), switches, hubs (wired and wireless), firewalls, cable types and connectors (Cat 5-6, coaxial, fibre), wireless access points, network interface cards (wired and wireless). Topologies, logical and physical (star, bus, ring, mesh). Protocols and standards: TCP/IP, DNS, DHCP, HTTP, FTP SMTP, 802.x, Bluetooth, 3G, 4G, 5G. Factors that affect range and interference: noise, distance, cabling issues. Applications: web services, databases, antivirus. Software: operating systems (Windows, Linux, Mac OS Server).
Learning Outcome 2: **Configure a network** (a peer-to-peer or client-server network depending on hardware and software) • Selecting and configuring network components, to include: server(s), nodes (mobile devices, workstations), interconnection devices (switches, hubs, routers). • Selecting and configuring differing types (wireless or wired) • Installing network operating systems. • Configuring services (DNS, Active Directory (AD)). **Modify a network** Making it more secure, as well as configuring it for specific organisational requirements. Example modifications could include: configuring Internet Protocol (IP) addresses, managing domains, adding user types and groups, installing and configuring antivirus software and firewalls. **Apply and configure network security** Securing the network by undertaking the following tasks: setting up, changing, managing passwords and policies, administering authorisation, setting up user accounts with different permissions, restricting new services according to permissions, access controls, backing up and restoring, intrusion detection systems. Encryption: physical security (CCTV, access, biometrics, locks, firewalls, antivirus).
Learning Outcome 3: **Troubleshoot a network** Testing a given network using available networking tools (ping, benchmarking, IPCONFIG). Documenting network testing against benchmarks in a professional manner for a range of user groups, including end users and management.

Indicative Content: Networking
Troubleshoot and repair routine issues: faulty cables, interface card and other hardware, IP address conflict. Review the finished network in relation to: organisational requirements and user experience (e.g. usability and reliability), security, fitness for purpose, any constraints (resources, time etc), strengths and improvements. Identify potential improvements by evaluating the following aspects of a network: performance, capacity, accessibility, portability, reliability, scalability, manageability.

Network Management

Level: Level 2

Credit Value: 6

GLH: 48

Unit Number: R/618/3689

Unit Aim: Learners will learn about network management functions, cloud computing and how to manage different network types using a range of tools and services, including ethical hacking.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Know about network management systems and tools.	1.1 Describe network management functions. 1.2 Use network management tools to document a network.
2. Be able to implement network management procedures for a specific purpose.	2.1 Use tools to manage and maintain a network ensuring maximum performance.
3. Understand how enabling network technologies can be used to support business.	3.1 Discuss the features of bring your own device (BYOD) management. 3.2 Investigate the different types of cloud systems and their business value.
4. Be able to use enabling network technologies.	4.1 Apply ethical hacking tools to ensure network security. 4.2 Develop a network that uses the Internet of Things (IoT).

Indicative Content: Newtwork Management
Learning Outcome 1: **AC 1.1:** Network management functions: configuration options (user groups), account management, performance, response times, traffic reporting. Different operating systems software: Windows, Linux, mobile. Considering differing protocols and layouts, including those utilising mobile devices, TCP/IP, POP, DNS. Networking tools: Wireshark (https://www.wireshark.org/), system-specific software. **AC 1.2:** Network documentation: technical record of the hardware, software, servers, directory structure, user profiles, data, and how they all work together, should also include any information that helps administrators and IT practitioners to keep the network up and running smoothly such as testing reports and service logs.
Learning Outcome 2: **AC 2.1:** Learners should demonstrate that they have the skills to manage a network and provide maintenance on an existing network. Configuration options: user accounts, roaming profiles, server settings, local configurations, drive mappings, virus scanning options. User interface configuration: drive access, software access. Regular maintenance activities: backup and restore options, account creation and deletion, account modifications, password and account rights changes, system testing, virus scan. Documentation updates and service logs. Maximum performance: improved network speed and/or capacity.
Learning Outcome 3: **AC 3.1:** Bring your own device (BYOD) management features: policies concerned with using own devices on a network (viewing past histories, sharing data), maintenance support in organisations (physical support, upgrading hardware and software), device configuration support (user accounts, access rights, access to peripheral devices such as printers). **AC 3.2:** • Cloud systems: • Cloud types: private, public, hybrid. • Cloud deployment: how cloud services are deployed and accessed. • Cloud storage: access, permissions. • Security: considerations when using cloud technology. Business value: scalability, security, hardware independence, costs, access, competitiveness, communication/collaboration.

Indicative Content: Newtwork Management
Learning Outcome 4: **AC 4.1:** Ethical hacking to support network management, penetration testing, firewalls: Examining security features as tools to support firewall management, access controls, user rights, virtual private network access. Applying penetration testing as a tool to support network management (port scanning, vulnerability scanning, password cracking). **AC 4.2:** IoT network: connecting smart appliances and mobile devices on a 4G or 5G network.

IT Support Fundamentals

Level: Level 1

Credit Value: 6

GLH: 48

Unit Number: L/618/3660

Unit Aim: Learners will learn how to install computer hardware and software and apply practical skills to solve IT problems to support users.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Know about hardware and software in IT systems	1.1 Identify the features, functions, and components in IT systems.
2. Know about the role of IT support within an organisation.	2.1 Describe why IT support is important in organisations.
3. Be able to install and update hardware and software to support user needs.	3.1 Connect the components of an IT system safely. 3.2 Connect removable storage safely. 3.3 Connect the IT system to the internet. 3.4 Install and configure security software. 3.5 Install appropriate software applications.
4. Be able to perform hardware and software tests to resolve IT problems.	4.1 Identify hardware and software tests. 4.2 Perform tests to check IT system functionality and resolve any errors or problems.

Indicative Content: IT Support Fundamentals
Learning Outcome 1: • The features and functions of hardware components: central processing unit (CPU), random-access memory (RAM), power supply, storage devices (optical drive, hard drive, solid-state drive), expansion cards (video, audio, network cards, modem), motherboard, system cooling (case fans, CPU fans, liquid cooling). • Features of peripheral hardware: input devices, (keyboard, scanner, camera), output devices (printer, projector), storage devices (USB flash drives, SD cards, external hard drives). • Features and uses of software: operating systems (Windows, Mac OS, Linux), utility software to manage common computer system tasks, including: disk management, e.g. formatting, file transfer, defragmentation, security (antivirus and back-up, application), software used to support user needs (word processing, email, spreadsheet software). • Computer networks: types of network (local area network (LAN), wide area network (WAN)), basic features and uses of different types of network.
Learning Outcome 2: • Importance of IT support: protection against viruses and cybercrime, for data storage and management, communication and collaboration, improves decision making, etc. • Learners need to understand that every organisation, whether small or big, needs effective IT services and systems in order to operate effectively and the implications when hardware/software fails, needs maintained etc.
Learning Outcome 3: • Connect components: monitor, keyboard, mouse (or other pointing device), speakers, scanner, games console, joystick, plug and play devices, default setup routines, printer and other device drivers, removable storage media, CD/DVD, data/memory stick, media card, mobile device, removable hard drive. • Connect components safely: reading and following instructions, complying with health and safety guidelines, identifying risks from hardware, electrical connection risks and guidelines, use and disposal of cleaning materials, handling equipment, risks to self and others. • Connect removable storage safely: safe attachment and removal of USB devices. • Connect to the internet: router, modem, mobile device, wireless router, broadband, dial up, wireless, Internet Service Provider (ISP), username, password. • Install and configure virus protection software: run installation program, answer setup dialogue, select drives/files to scan, schedule regular scans, update software when prompted. • Install software applications: software licence, installation disks, manuals, default settings, autosave settings, secure removal/transfer of data, configure the user interface, set system date, time, language, set up user account, desktop shortcuts.
Learning Outcome 4: • Hardware and software tests: print test pages, check files are saved on storage media, open and close applications, open and close files, check anti-virus, spyware, adware malware software is running, access network files and applications, check internet connection, send and receive test email, navigate to ISP website, run utilities, speed test to check data transfer rates, identify networked devices, view network configuration. • Identifying and solving problems with hardware: replacing components, connecting devices to other systems, replacing faulty hardware (keyboard, mouse).

Indicative Content: IT Support Fundamentals
• Creating/setting up new users, replacing/updating components, installing and updating software, fixing printer problems. • Installing, updating, and running anti-virus and other security software regularly. • Dealing with storage problems: backing up/archiving old files, deleting unwanted files, increasing user storage allocation, adding additional storage media. • Installing and setting up printers and scanners and troubleshooting faults.

Technical Support

Level: Level 2

Credit Value: 6

GLH: 48

Unit Number: J/618/3687

Unit Aim: Learners will understand IT diagnostic procedures, so they are able to identify and repair faults when installing, configuring, and testing IT systems and mobile devices for a range of user needs. They will learn about the hardware and networking components needed in an IT system, how operating systems work and the types of software and applications that need to be installed and configured.

This unit has 5 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Know about the role of IT support in organisations.	1.1 Explain the role of IT support and how it supports different business functions.
2. Know about the procedures used when diagnosing IT faults.	2.1 Describe the process for diagnosing IT faults. 2.2 Describe organisational issues associated with IT fault diagnosis.
3. Be able to install, configure and test hardware in IT systems to meet user requirements.	3.1 Describe the hardware and networking components needed in an IT system. 3.2 Install and configure hardware in an IT system safely. 3.3 Identify and perform hardware tests to check IT system functionality and diagnose and remedy any faults.
4. Be able to install, configure and test software in IT systems and mobile devices to meet user requirements.	4.1 Explain the functions of an operating system and the types used in IT systems. 4.2 Explain software application features and functions. 4.3 Install and configure software in an IT system. 4.4 Set-up and configure a mobile device. 4.5 Identify and perform software tests and diagnose and remedy any faults.
5. Be able to apply safety and security measures to IT systems and mobile devices.	5.1 Apply safety and security measures to IT systems and mobile devices.

Indicative Content: Technical Support
Learning Outcome 1: Different business functions: sales, finance, HR, admin, marketing, stock control, distribution, etc. IT support as a business function: provides customer service to employees, safety and protection from viruses and cybercrime, for data storage and management, communication and collaboration, improves decision making, supporting/training users, managing hardware/software maintenance and upgrades, etc. Learners need to understand that every organisation, whether small or big, needs effective IT services and systems in order to operate effectively and the role of IT support when hardware/software fails, needs maintained, users need training, etc.
Learning Outcome 2: Procedures: fault validation, information gathering, information analysis, solution identification. Diagnostic process: information sources such as automatic error messages, help desk records, questioning the user, technical manuals; specific fault identification procedures using flowcharts; fault validation; minimise disruption; escalation; communicating with user, estimating time for repair, estimating cost. Organisational issues: fault rectification policy e.g. problem description, problem history, problem location, technical information on the system under investigation, any parts used, actions taken and their outcome, time and expense records; business impact e.g. loss of service, customer dissatisfaction, errors in information; other considerations e.g. repair cost vs replacement, resource availability, skill availability, ease of repair.
Learning Outcome 3: **AC 3.1:** • Hardware: central processing unit (CPU), random-access memory (RAM), power supply, storage devices (optical drive, hard drive, solid-state drive), expansion cards (video, audio, network cards, modem), motherboard, system cooling (case fans, CPU fans, liquid cooling). • Peripherals (wired/wireless): input devices (keyboard, pointing devices, scanner, microphone, webcam), output devices (printer, display devices, speakers), input and output devices (Smart TV, touchscreen display). • Connectors and ports: video, eSATA, ThunderboltTM, USB, RJ-45, RJ-11, audio, power, HDMI. • Networking devices: routers (wired/wireless), switches, hubs, nodes and links. • Network connection processes: apply/verify connection for devices, install drivers, set server identity and encryption type, apply admin and user passwords. **AC 3.2:** • Install hardware: monitor, keyboard, mouse (or other pointing device), speakers, scanner, games console, joystick, plug and play devices, default setup routines, printer and other device drivers, removable storage media, CD/DVD, data/memory stick, media card, mobile device, removable hard drive, modem, mobile device, wired/wireless router. • Safe working practices: reading and following instructions, complying with health and safety guidelines, identifying risks from hardware, electrical connection risks

Indicative Content: Technical Support
and guidelines, use and disposal of cleaning materials, handling equipment, risks to self and others, safe attachment and removal of USB devices. **AC 3.3:** • Hardware tests: print test pages, check files are saved on storage media, access network files and applications, check internet connection, send and receive test email, navigate to ISP website, run utilities, speed test to check data transfer rates, identify networked devices, view network configuration. • Identifying and solving problems with hardware: replacing components, connecting devices to other systems, replacing faulty hardware (keyboard, mouse), dealing with storage problems: backing up/archiving old files, deleting unwanted files, increasing user storage allocation, adding additional storage media, installing and setting up printers and scanners and troubleshooting faults.
Learning Outcome 4: **AC 4.1:** Functions of an operating system: boot up, central processing, resource and device management, memory and sharing, functionality monitoring, directories for programs and storage, user interface, security. Types of operating system: Windows, Mac OS, Linux, open source. **AC4.2:** Software application features and functions: • Productivity software (word processing, email and presentation software, pdf viewers/creators). • Web browsers (Firefox, Google Chrome, Internet Explorer). • Collaborative software (document storage and sharing). • Messaging and video conferencing: Skype, Google Hangouts. • Utility software (security/malware, diagnostics, compression software). • Specialist software (digital design, medical/scientific, financial). • Open source versus commercial. • Common file types and formats for documents, audio, images, compression. **AC 4.3:** Install software applications: software licence, installation disks, manuals, default settings, autosave settings, secure removal/transfer of data, configure the user interface, set system date, time, language, set up user account, desktop shortcuts. **AC 4.4:** Set-up and configure a mobile device: connection set-up, synchronisation, email configuration, Bluetooth pairing, locking/unlocking and security, downloading and installing apps. **AC 4.5:** Software tests: open and close applications, open, close, save files, check anti-virus, spyware, adware malware software is running, installing, updating and running anti-virus and other security software regularly.

Indicative Content: Technical Support
Learning Outcome 5: Safety measures: disposal methods, e.g. Restriction of Hazardous Substances Directive (RoHS), cathode ray tube (CRT) monitors, scanners, batteries, ink/toner, hard drives. Power, e.g. energy-efficient devices, power profiles, power limitations, international power differences. System/device location: consideration of airflow, humidity, temperature, dust accumulation, electromagnetic interference (EMI). Electrostatic discharge concepts.

Computer-Aided Design

Level:	Level 1
Credit Value:	3
GLH:	24
Unit Number:	A/618/3623
Unit Aim:	Learners will develop an understanding of CAD software to produce 2D and 3D drawings.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Know about CAD software.	1.1 Identify the uses and features of CAD software. 1.2 Outline the advantages and disadvantages of using CAD software to create drawings.
2. Know why it is important to comply with national and international drawing standards.	2.1 Identify the features and symbols used in national and international drawing standards.
3. Be able to use CAD software to produce 2D and 3D drawings to meet requirements.	3.1 Use CAD software to produce 2D drawings. 3.2 Use CAD software to produce 3D drawings. 3.3 Use tools and techniques to improve drawings.

Indicative Content: Computer-Aided Design
Learning Outcome 1: • Uses: used by architects, engineers, drafters, designers/artists, and others to create precision drawings or technical illustrations, CAD software used to create two-dimensional (2-D) drawings or three-dimensional (3-D) models which typically show objects that will later be manufactured and delivered to customers, for example, model of a mountain bike designed would be designed using CAD software. • Features: start-up menu, ribbon / toolbar, tabs, browser, design tree, dialogue boxes, properties, drawing aids, visual settings, background colour, units, viewing tools (zoom, pan, navigation tools, function keys), drawing templates, sheet sizes, drawing lines, limits and types, scales, text and dimension styles, screen display, layers, units, toolbars, drawing origin and datum, peripheral devices. • Advantages: productivity and speed of drawing creation, uniformity of production, standardised parts, symbols etc., electronic data exchange and transfer, computer aided manufacture (CAM). • Disadvantages: time taking process to know how to operate CAD software, high production costs (time and cost of training staff, software costs), files can get corrupted.
Learning Outcome 2: • Features and symbols: use of 1st and 3rd angle projection, features used in drawings (symbols, lettering and numbering, line types, dimensioning), units of measurement (metric, imperial, angular), symbols utilised in engineering drawings (welding, electrical/electronic, mechanical, fluid power).
Learning Outcome 3: • 2D key features: reference point, ease of use, software and hardware compatibility, coordinate input methods, e.g. absolute, relative/incremental, polar, drawing aids (coordinate grids and snaps, object snaps, viewing features, e.g. zoom, previous, pan). • 2D drawing features: geometry (lines, circles, arcs, ellipses), dimensioning, including linear dimensions, radial dimensions, angular dimensions, leaders' dimensions, text dimensions, tolerances dimensions, text, including text location, font type, size and orientation. • 3D key features: configuration of the parametric modeller, including origin, units, snap and grid, correct format, project files, selection of file types, and planes (XY, XZ and YZ), use of display commands, including pan, zoom, and orbit. • 3D drawing features: threads (male and female), holes (plain, drilled, threads, countersunk, fillet, chamfer, combination of solid objects, including Boolean operations), placing 3D components, including degrees of freedom, XYZ translational freedom and XYZ rotational freedom, assembly constraints and the relationships between components, including mate constraint and angle constraint assembly relationships, insert constraint and tangent constraint assembly relationships, modification to 3D components due to assembly constraints, consideration of assembly, including storyboarding, component relationship, use of rendering, including render, shadows, reflections, lights, materials, textures, ray tracing. • Tools and techniques: use of layers, scaling, mirroring, rotating, trimming, moving/translating, corner filleting/chamfering, exploding, copying, arrays/patterns, extending, stretching, erasing.

Computer-Aided Design

Level:	Level 2
Credit Value:	6
GLH:	48
Unit Number:	T/618/3670
Unit Aim:	Learners will develop skills using CAD software to produce 2D and 3D drawings. They will learn about national and international standards to ensure that drawings produced will be clearly understood. They will also explore some of the more advanced features of the software, to ensure that drawings comply with standard working practices.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand CAD Software.	1.1 Describe the types of CAD drawing parameters that can be configured to meet drawing requirements. 1.2 Explain the benefits and limitations of using CAD software to create drawings.
2. Understand the need to comply with national and international drawing standards.	2.1 Explain the importance of national and international drawing standards.
3. Be able to produce 2D and 3D drawings to industry standards.	3.1 Produce a 2D CAD assembly drawing from parts drawings. 3.2 Produce fully dimensioned 2D CAD parts drawings using basic and further CAD commands and BS standards. 3.3 Produce a 3D CAD model from a 2D CAD assembly drawing.

Indicative Content: Computer-Aided Design
Learning Outcome 1: • Configurable drawing parameters: drawing templates, sheet sizes, drawing lines, limits and types, scales, text and dimension styles, screen display, layers, units, toolbars, drawing origin and datum, peripheral devices. • Benefits: productivity and speed of drawing creation, uniformity of production, standardised parts, symbols etc., electronic data exchange and transfer, computer aided manufacture (CAM). • Limitations: time taking process to know how to operate CAD software, high production costs (time and cost of training staff, software costs), files can get corrupted.
Learning Outcome 2: • Importance: standard requirement, commonality of drawing interpretation, removal of language barriers (use of symbology), global manufacture of component parts assembled in one location. • Features and symbols: use of 1st and 3rd angle projection, features used in drawings (symbols, lettering and numbering, line types, dimensioning), units of measurement (metric, imperial, angular), symbols utilised in engineering drawings (welding, electrical/electronic, mechanical, fluid power).
Learning Outcome 3: Drawings of component parts that form an assembly drawing to BS8888, showing use of: • Basic drawing commands and editing commands to produce and erase lines, circles, text. • Outputting to a printer/plotter device • Appropriate tools to allow accurate geometry definition • Manipulation of views, including zoom and pan options • Saving the drawing data in an appropriate format • Modification and manipulation of drawn features, including scaling, revolving/rotating, copying/duplicating and moving. • Dimensioning and hatching. • Drawing template, typically to include a border, title block, projection, scale, drawing number, title of drawing, material, names of drawing creator and who checks/authorises the drawing. • Further CAD commands, including erase, stretch, trim, scale; absolute, relative, and polar coordinates, features, (type of line, grid, snap, circle, text, hatch, zoom-in, zoom out) 3D CAD model using a 2D CAD assembly drawing showing use of: configuration of the parametric modeller, including origin, units, snap and grid, correct format, project files, selection of planes, e.g. XY, XZ and YZ, use of display commands, including pan, zoom, and orbit.

Computerised Accounting Software

Level: Level 1

Credit Value: 3

GLH: 24

Unit Number: R/618/3627

Unit Aim: Learners will develop the skills to use accounting software tools and techniques. They will enter accounting transactions and produce a range of reports.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Be able to manage accounting data.	1.1 Identify the sources and characteristics of accounting data. 1.2 Enter, locate, and display accounting data accurately to meet requirements. 1.3 Check data records, making corrections, as necessary. 1.4 Identify the risks to data security and the procedures used for data protection. 1.5 Follow local and/or legal guidelines for the storage and the use of data.
2. Be able to process business transactions.	2.1 Use appropriate tools and techniques to process transactions. 2.2 Check and respond appropriately to any errors or problems.
3. Be able to produce accounting documents and summary reports.	3.1 Describe the types of information required and how to present it. 3.2 Generate accounting documents and management reports to meet requirements.

Indicative Content: Computerised Accounting Software
Learning Outcome 1: **AC 1.1:** Unique references, codes, statutory requirements, editing restrictions, spreadsheet analysis, requirements for internet banking, stock control system, online ordering system, budget update, file format (CSV, XLSX). **AC 1.2:** Use of data entry form, wizards, add/amend record (customer record, supplier record, nominal ledger, stock record), search, sort, print records, filters. **AC 1.3:** Due to field size, data type, validation checks, duplicate records, format, use help, data that does not fit parameters, alerts, reminders, problems with forms. **AC 1.4:** Risks (access control, different access levels for different users, authorised use, confidentiality, personal data, user names, password protection, secure password management, user authentication), data protection procedures (accessible, reliable, rapid access, shared view, up to date, accurate, secure, simplified data handling). **AC 1.5:** Set by employer or organisation, policies relating to security backup and data protection, guidelines for data format, compliance, audit and reporting requirements, file management of the application, local storage, online storage.
Learning Outcome 2: **AC 2.1:** Process transactions, number of items, single items, batches, create, copy, check, save, types of transactions (post invoice, receipt, payment, journal, contra entry, credit note), from (bank statement, cheque book, paying-in book, e-commerce. **AC 2.2:** Spell check, format, consistency, remove duplication, verify data, edit details, check calculations, check coding, file maintenance, check others' work, duplication, accuracy, limits of own responsibility, process for reporting errors and problems.
Learning Outcome 3: **AC 3.1:** Month, quarterly, fiscal end, post depreciation, budgets, standing orders, VAT return. **AC 3.2:** Invoice, sales order, purchase order, statement, to screen, printed, email, audit trail, customer activity, day book, aged debtor, aged creditor.

Computerised Accounting Software

Level:	Level 2
Credit Value:	3
GLH:	24
Unit Number:	A/618/3671
Unit Aim:	Learners will develop the skills to use accounting software to process financial transactions and prepare statements and will gain practical experience of the accounting cycle by using a computerised system.

This unit has 3 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Be able to manage accounting data.	1.1 Explain the sources and characteristics of accounting data. 1.2 Enter, locate, and display accounting data accurately to meet requirements. 1.3 Check data records, making corrections, as necessary. 1.4 Describe the risks to data security and the procedures used for data protection. 1.5 Apply local and/or legal guidelines for the storage and use of data.
2. Be able to process business transactions.	2.1 Use appropriate tools and techniques to enter and process transactions. 2.2 Check and respond appropriately to any errors or problems. 2.3 Use appropriate tools and techniques for period-end processing.
3. Be able to produce accounting documents and summary reports.	3.1 Generate accounting documents and management reports to meet requirements. 3.2 Import and export data and link to other systems and software.

Indicative Content: Computerised Accounting Software
Learning Outcome 1: **AC 1.1:** • Unique references, codes, statutory requirements, editing restrictions. **AC 1.2:** • Use of data entry form, wizards, add/amend record (customer record, supplier record, nominal ledger, stock record), search, sort, print records, filters. **AC 1.3:** • Due to field size, data type, validation checks, duplicate records, format, use help, data that does not fit parameters, alerts, reminders, problems with forms. **AC 1.4:** • Risks (access control, different access levels for different users, authorised use, confidentiality, personal data, user names, password protection, secure password management, user authentication), data protection procedures (accessible, reliable, rapid access, shared view, up to date, accurate, secure, simplified data handling). **AC 1.5:** • Set by employer or organisation, policies relating to security backup and data protection, guidelines for data format, compliance, audit and reporting requirements, file management of the application, local storage, online storage.
Learning Outcome 2: **AC 2.1:** • Process transactions, number of items, single items, batches, create, copy, check, save, types of transactions (post invoice, receipt, payment, journal, contra entry, credit note), from (bank statement, cheque book, paying-in book, e-commerce. **AC 2.2:** • Spell check, format, consistency, remove duplication, verify data, edit details, check calculations, check coding, file maintenance, check others' work, duplication, accuracy, limits of own responsibility, process for reporting errors and problems. **AC 2.3:** • Month, quarterly, fiscal end, post depreciation, budgets, standing orders, VAT return, duplication, accuracy, limits of own responsibility, process for reporting errors and problems.
Learning Outcome 3: **AC 3.1:** • Month, quarterly, fiscal end, post depreciation, budgets, standing orders, VAT return, invoice, sales order, purchase order, statement, to screen, printed, email, audit trail, customer activity, day book, aged debtor, aged creditor. **AC 3.2:** • Mail merge, spreadsheet analysis, requirements for internet banking, stock control system, online ordering system, budget update, file format (CSV, XLSX).

Database Software

Level:	Level 1
Credit Value:	3
GLH:	24
Unit Number:	H/618/3633
Unit Aim:	Learners will develop the skills and knowledge to use database software tools and techniques.

This unit has 2 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Be able to use database software tools to enter, edit and organise routine data.	1.1 Identify different uses of databases. 1.2 Create a database table and enter data into records accurately. 1.3 Locate and amend records. 1.4 Select and use tools to check records for accuracy. 1.5 Identify errors and respond appropriately to ensure database is fit for purpose. 1.6 Identify guidelines and procedures for the safe storage and use of data.
2. Be able to retrieve and print database records to meet requirements.	2.1 Run simple queries to search and retrieve data. 2.2 Produce and format reports to output data.

Indicative Content: Database Software
Learning Outcome 1: **AC 1.1:** A database is a collection of data that is organised in a table consisting of columns (fields) and rows (records) so that it can be easily accessed, managed and updated. Organisations use databases to perform calculations, manage large data sets, present information etc. Uses: including: Health centres and hospitals, e.g. doctors, patients, appointments Employment, e.g. staff names, payroll, departments Libraries, e.g. members, books, loans **AC 1.2:** Table structure: fields, records; use of data entry form; create new record; add record to table, use of data entry form, create new record, add record, select and update fields, groups of records, field data types (text, number, yes/no, date/time, unique identifier). **AC 1.3:** Find, search, replace, edit record, sort, filter, use wildcards, use search operators, categories. **AC 1.4:** Spell check, format, accuracy, consistency, check and remove duplication, verify data, data validation techniques, record housekeeping. **AC 1.5:** Error messages, field size issues, data types, data validation checks, duplicate records, incorrect format, use of help, FAQs, online tutorials. **AC 1.6:** Guidelines set by employer or organisation, security of data, backup procedures, data format, compliance and reporting, confidentiality of data, file management procedures, data protection law (GDPR), understand key rights available under data protection law (the right to see what personal data organisations hold about you, to withdraw consent and demand that personal data can be rectified or deleted).
Learning Outcome 2: **AC 2.1:** Use menus or shortcuts, alphabetical sorts, numeric sorts, ascending, descending, filter single criteria, filter multiple criteria, save queries, save output. **AC 2.2:** Print output meets need and appropriately presented. **AC 2.3:** Standard reports, customised reports, reports with multiple parameters, check outputs meets need, print output.

Database Design and Development

Level: Level 2

Credit Value: 6

GLH: 48

Unit Number: H/618/3678

Unit Aim: Learners will learn how databases are used. They will design, develop, and test a relational database and analyse and present their findings. This unit also allows learners to obtain feedback on their work for review and further development.

This unit has 4 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Know about the structure and principles of databases.	1.1 Describe the uses and features of databases. 1.2 Describe the tools and techniques used in databases. 1.3 Identify data collection methods to gather data from a range of sources.
2. Be able to use database tools to design, develop and test a relational database to meet requirements.	2.1 Design a relational database system using database design techniques. 2.2 Develop a relational database. 2.3 Create a test plan to test a relational database obtaining feedback from others.
3. Be able to use database techniques to analyse and present data.	3.1 Apply techniques to analyse and present data in a way that is appropriate for audience and purpose.
4. Be able to review a relational database.	4.1 Review how the database meets requirements, making suggestions for further improvements.

Indicative Content: Database Design and Development
Learning Outcome 1: **AC 1.1:** A database is a collection of data that is organised in a table consisting of columns (fields) and rows (records) so that it can be easily accessed, managed and updated. Organisations use databases to perform calculations, manage large data sets, present information etc. Uses: including: Health centres and hospitals, e.g. doctors, patients, appointments Employment, e.g. staff names, payroll, departments Libraries, e.g. members, books, loans **AC 1.2:** Tools and techniques include: table structures, field characteristics, validation rules, indexing, records, relationships, forms, sorts, queries, reports **AC 1.3:** Qualitative and/or quantitative data. Primary and secondary sources such as: the internet, existing customers, general public, social media, phone use. Gathering data: questionnaire: online survey, focus groups, observation. Constraints on data collection: legal implications, data confidentiality, costs of collecting and maintaining the data.
Learning Outcome 2: **AC 2.1:** Design documentation, to include: Data dictionary: field names, data types, e.g. alphabetic, numeric, alphanumeric, logical, web, lookup wizards, field sizes, e.g. byte, integer, long integer, single, double and decimal, field formats, e.g. fixed and decimal places, default values, primary and foreign keys. Data validation: lists, rules, text, presence check, range check, format check. Entity relationship diagram (ERD), input forms, output screens/reports, test plan with test data. **AC 2.2:** The relational database must use a realistic data set and include at least three tables, queries, data entry-forms, and reports. Tools and techniques, to include: creating tables, creating fields, validation rules, importing data from external sources, relationships (one-to- many, many-to-many), creating, editing

Indicative Content: Database Design and Development
and deleting relationships data entry forms (simple forms, e.g. data entry and main menu), customise forms (e.g. add a new record, print a record, delete a record and navigation). **AC 2.3:** Purpose of testing: functionality, purpose, usability, to include feedback from others, testing data, provide onscreen user navigation and instructions making amendments following testing.
Learning Outcome 3: • Sorting data: single or multiple fields. • Queries: single criterion, multiple criteria using linked tables and making use of logical operators, e.g. AND, OR, NOT and wildcards. • Calculations: totals, averages, max, min. • Data cleansing and reasons for: manually, using software, saves storage space, removes unnecessary data, removal of inaccurate data. • Data mining: extracting patterns from data, automatic collection of data to be analysed for trends and patterns. • Reporting: creating and editing reports, customising report templates, customising output forms, presentations, diagrammatic displays. • Presenting to different audiences: peers, tutors, managers, customers etc.
Learning Outcome 4: **AC 4.1:** Review the finished relational database in relation to: user requirements and user experience (e.g. usability and reliability), fitness for purpose, any constraints (resources, time etc), strengths and improvements.

Data Management and Analytics

Level:	Level 2
Credit Value:	3
GLH:	24
Unit Number:	D/618/3677
Unit Aim:	Learners will explore big data and how it is analysed and manipulated by organisations to predict patterns and trends. Learners will also learn about data analysis techniques and how they can be used to collect, cleanse, manipulate and present findings.

This unit has 2 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Understand data management and analytics.	1.1 Explain the purpose of big data analytics and analysis and how organisations can use it to improve productivity and performance. 1.2 Investigate how data analysis techniques can be used to collect, cleanse and manipulate data.
2. Be able to manipulate data to produce findings for a range of purposes and audiences.	2.1 Use a range of data analysis techniques to manipulate data using statistical and probability operators. 2.2 Produce and present findings in appropriate formats.

Indicative Content: Database Management and Analytics

Learning Outcome 1:

AC 1.1:

- Big data and how it is collected and used for a business purposes.
- Sources of big data include: social media, online gaming, loyalty cards, online commerce, questionnaires, government records, subscriptions, research, healthcare, e.g. heart disease, infectious diseases, doctor's performance, financial sector, politics weather.
- The safety and security implications of big data, including the types of data individuals provide online for a variety of purposes, information organisations may hold about consumers.

Big data analytics and analysis

- Use of software tools to gather and analyse big data for decision making, strategic planning, productivity, product/service benchmarking, marketing, advertising, forecasting.
- Categories of data and how these are gathered and analysed, such as: medical criteria, e.g. blood group, medical conditions, personal details, e.g. date of birth, address, phone number, financial information, e.g. salary, credit rating, debt, mortgage, fraud, environmental, e.g. temperatures, rainfall, sunlight hours, wind speeds, tides, retail habits, e.g. preferred shops, spend, shopping patterns.
- Predictive analytics techniques for a range of purposes, including: defining data, producing statistics, modelling data, data mining.
- Using analytics software to analyse and present big data including: cleansing, coding data, assessing validity, checking integrity of the data.
- Using software tools to process big data for a given purpose: questioning the data, e.g. multiple tables, multiple criteria, formulaic functions, graphical information.
- Evaluation of the results of data processing to identify: whether the solution meet requirements, whether it meets customer need, the strengths of big data analytics, whether it could be improved.
- Legal, ethical and security issues: data protection legislation, individual rights, security of commercial and personal data.
- Storing data: Structured/unstructured, security, data warehouse
- Accessing data: Security, sharing.

AC 1.2:

- Levels of data gathered, stored and used in organisations, including strategic and operational data, stages of data analysis in an organisational context, including:
- Information requirements, e.g. how it will be used, why it is needed
- What the problem is and how the information will solve it
- Data collection, e.g. observations, interviews, review of existing data
- Data organisation, e.g. how the data will be organised, stored and who will have access
- Data storage, e.g. in-house or external and the requirements
- Data cleansing, e.g. errors, missing elements, duplicates
- Data manipulation, e.g. arranging, collating, aggregating, interpreting, correlation
- Presentation of findings, e.g. tables, charts, graphs, dashboard, reports

Learning Outcome 2:

AC 2.1:

- Statistical and probability techniques:
- Discrete data

Indicative Content: Database Management and Analytics
• Continuous data • Spreadsheets, statistical software (SPSS) • Mean, median and mode • Measures of dispersion, variance, standard deviation, range, interquartile and inter-percentile ranges • Normal distribution • T-Test • Linear relationship • Equality of the line of regression and correlation coefficient • Regression line for non-linear relationship • Presentation of data: bar charts, pie charts, histogram etc. **AC 2.2:** Present findings: prepare the data for analysis, analyse the data, check for validity, accuracy, relevance, is presentation appropriate for purpose and audience, visualisation tools and techniques, graphical and numerical data, reports, presentations, verbal communication.

Desktop Publishing Software

Level: Level 1

Credit Value: 3

GLH: 24

Unit Number: A/618/3640

Unit Aim: Learners will develop skills in desktop publishing software. They will learn the tools and techniques to create and print a a publication to meet purpose and audience.

This unit has 3 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Be able to create a publication to meet purpose and audience.	1.1 Use appropriate templates to create a publication in line with local guidelines. 1.2 Change page design and layout to suit purpose and audience. 1.3 Save and retrieve publication using local and remote storage methods.
2. Be able to manipulate content to enhance publication.	2.1 Insert and combine text and media. 2.2 Use editing and formatting tools to manipulate content.
3. Be able to proof and print a publication.	3.1 Use tools to check publication for accuracy and consistency, making changes where necessary. 3.2 Print publication in appropriate format.

Indicative Content: Desktio Oublishing Software

Learning Outcome 1:

AC 1.1:

- Templates: letterhead, business card, poster, newsletter), consider house style e.g. branding, publication guidelines, existing styles and schemes; refinements to styles and schemes.
- Local guidelines: templates, house style (branding), publication guidelines, existing styles and schemes; refinements to styles and schemes.

AC 1.2:

- Page design and layout: when it would be appropriate to design a new page layout instead of use an existing template to set publication size, white space, margins, apply layout grids/guides according to a design brief, headers and footers, create columns, create text areas/text frames, page set-up, page size and orientation (including non-standard page size), gridlines/layout guides, set margins (left, right, top, bottom), text frames/areas, columns and space between columns, (gutter space), short-cuts and print preview e.g. in some software, the text frame properties must be set to zero to avoid additional space between columns.

AC 1.3:

- Save and retrieve documents in line with local guidelines and conventions where available: save, save as, save as, search, open, print, share, export, close, version control, file size, My Documents, local storage/external storage devices (hard drive, USB), remote storage (Dropbox, Google Drive).

Learning Outcome 2:

AC 2.1:

- Combine text and media: importing text from sources, use of layers in combining graphics and text, insert and format lines/boxes/arrows, group, ungroup, copy and move multiple items, for example, a shaded box, text and a graphic, borders, panels, shading, logos; import information produced using other software; reference external information, hyperlinks, object linking; embedding.
- Media (images/graphics): digital bitmap (bmp, jpg or png) or raster picture/vector graphics (svg, wmf, eps, ai), picture format (e.g. jpg andpsd) internet drawing display (png), graphic designs (svg).

AC 2.2:

- Edit: drag and drop, copy and paste, find, find and replace, undo, redo; position; use layout guides.
- Format text: understand the use and importance of consistent formatting of text (type face, size, alignment, emphasis) and ensure headings, subheadings and body text are formatted appropriately, text special effects, for example, dropped/raised capitals, reverse text, rotated text, word art, use existing styles and schemes for font, size, orientation, colour, alignment; create new styles and schemes for font, size, orientation, colour, alignment.
- Manipulate images and graphics: resize (maintain aspect ratio), crop, rotate, position, border.
- Control text flow: single/multiple columns and pages, around images and graphic elements.

Indicative Content: Desktio Oublishing Software

Learning Outcome 3:

AC 3.1:

- Things to consider: does it read well on screen, is it clearly legible when printed, is the layout suitable, is the presentation appropriate, are text styles consistent, are images appropriately sized and positioned, are images/graphics/charts fit for purpose and clearly labelled, are tables clear and appropriate, has organisational house style been used (where applicable).
- Accuracy: spell check, grammar check, manual techniques (proof reading/peer review).
- Inconsistencies: font style and size, page layout, margins, space, line and page breaks, figures, times, dates, measurements, punctuation.

AC 3.2:

- Formats suitable for print publishing and those that are application specific and more common (rtf, eps, pdf), portrait/landscape, two-page, four-page document, double-sided, newspaper style, etc, use and set crop marks to print (the lines printed in the corners of a publication's sheet or sheets of paper to show the printer where to trim the paper, used by commercial printers for creating bleeds where an image or colour on the page needs to extend all the way to the edge of the paper).

Desktop Publishing Software

Level:	Level 2
Credit Value:	3
GLH:	24
Unit Number:	K/618/3679
Unit Aim:	Learners will develop skills in desktop publishing software. They will understand page layout and design principles and learn the tools and techniques to create and print a variety of professional publications for different purposes and audiences.

This unit has 3 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Be able to create a range of publications for different purposes and audiences.	1.1 Use appropriate templates to create publications in line with local guidelines. 1.2 Apply page layout and design principles to publications to enhance effectiveness. 1.3 Save and retrieve publications using local and remote storage methods.
2. Be able to manipulate content to enhance publications.	2.1 Insert and combine text and media. 2.2 Use editing and formatting tools to manipulate content to enhance effectiveness.
3. Be able to proof and print publications.	3.1 Use professional techniques to check publications for accuracy and consistency, making changes where necessary. 3.2 Print composite proofs in appropriate formats. 3.3 Summarise the process for commercial printing.

Indicative Content: Desktop Publishing Software

Learning Outcome 1:

AC 1.1:

- Templates: letterhead, business card, poster, newsletter), consider house style e.g. branding, publication guidelines, existing styles and schemes; refinements to styles and schemes.
- Local guidelines: templates, house style (branding), publication guidelines, existing styles and schemes; refinements to styles and schemes.

AC 1.2:

- Organisation and arrangement of information e.g. size, white space, columns, consistency, orientation, proportion, consideration of how to achieve or enhance a publication's effectiveness, using a variety of styles and the ability to modify layouts allows publications to be created to suit different purposes, audiences, an understanding that some publication layouts require little content for maximum impact.
- Design and accessibility considerations: font size, colours, contrast, accessibility standards and legal requirements.

AC 1.3:

- Save and retrieve documents in line with local guidelines and conventions where available: save, save as, save as, search, open, print, share, export, close, version control, file size, My Documents, local storage/external storage devices (hard drive, USB), remote storage (Dropbox, Google Drive).

Learning Outcome 2:

AC 2.1:

- Combine text and media: importing text from sources, use of layers in combining graphics and text, insert and format lines/boxes/arrows, group, ungroup, copy and move multiple items, for example, a shaded box, text and a graphic, borders, panels, shading, logos; import information produced using other software; reference external information, hyperlinks, object linking; embedding.
- Media (images/graphics): digital bitmap (bmp, jpg or png) or raster picture/vector graphics (svg, wmf, eps, ai), picture format (e.g. jpg and psd) internet drawing display (png), graphic designs (svg).

AC 2.2:

- Edit: drag and drop, copy and paste, find, find and replace, undo, redo; position; use layout guides.
- Format text: understand the use and importance of consistent formatting of text (type face, size, alignment, emphasis) and ensure headings, subheadings and body text are formatted appropriately, text special effects, for example, dropped/raised capitals, reverse text, rotated text, word art, use existing styles and schemes for font, size, orientation, colour, alignment; create new styles and schemes for font, size, orientation, colour, alignment.
- Manipulate images and graphics: resize (maintain aspect ratio), crop, rotate, position, border.
- Control text flow: single/multiple columns and pages, around images and graphic elements.

Indicative Content: Desktop Publishing Software

Learning Outcome 3:

AC 3.1:

- Professional techniques (copyfitting): checking of widows and orphans (and when they should be applied), consistent paragraph spacing, keep with next, overlapping page items, leading/line spacing, hyphenation, white space and column balancing, use proof reading techniques to check that the publication looks professional, use checking techniques to ensure graphics are displayed appropriately, for example in proportion, text wrap applied, use spell check, grammar check, word count; using manual techniques to check for completeness, accuracy, orientation, layout, text alignment, formatting, fit for purpose.
- Things to consider: does it read well on screen, is it clearly legible when printed, is the layout suitable, is the presentation appropriate, are text styles consistent, are images appropriately sized and positioned, are images/graphics/charts fit for purpose and clearly labelled, are tables clear and appropriate, has organisational house style been used (where applicable).
- Accuracy: spell check, grammar check, manual techniques (proof reading/peer review).
- inconsistencies: font style and size, page layout, margins, space, line and page breaks, figures, times, dates, measurements, punctuation.

AC 3.2:

- Composite proofs: the final digital colour proof before printing which reflects colour accuracy and imposition, a high-end digital colour proof that is so accurate it replaces a press proof in most cases so when a client approves a composite proof, the printing company is expected to deliver a printed publication that matches it exactly.
- Formats suitable for print publishing and those that are application specific and more common (rtf, eps, pdf), portrait/landscape, two-page, four-page document, double-sided, newspaper style, etc, use and set crop marks to print (the lines printed in the corners of a publication's sheet or sheets of paper to show the printer where to trim the paper, used by commercial printers for creating bleeds where an image or colour on the page needs to extend all the way to the edge of the paper).

AC 3.3:

Commercial printing: understanding the differences between composite and spot-colour process printing (cost, scale, colour accuracy), the difference between RGB and CYMK modes of print, the use and purpose of colour separation.

Presentation Software

Level: Level 1
Credit Value: 3
GLH: 24
Unit Number: D/618/3663
Unit Aim: This unit will develop learners' presentation software skills to enable them to create presentations for different purposes and audiences.

This unit has 2 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Be able to create a presentation for different purposes and audiences.	1.1 Enter text, graphics, and media into a presentation to meet requirements. 1.2 Insert tables and charts to communicate information. 1.3 Combine information to enhance a presentation. 1.4 Save and retrieve a presentation using local and remote storage methods. 1.5 Identify how current legal and ethical constraints may affect presentations.
2. Be able to layout, edit and format presentations.	2.1 Use slide layouts, templates and designs appropriate for purpose and audience. 2.2 Use tools and techniques to edit and format presentations. 2.3 Apply animation and transition effects. 2.4 Use tools to check presentation for accuracy and consistency, making corrections where necessary.

Indicative Content: Presentation Software
Learning Outcome 1: Purpose: education, professional, entertainment, information sharing. Audience: other learners (peers), tutor, potential employer, general public etc. **AC 1.1:** Will vary according to context. Text: appropriate font styles, size and colours. Graphics: images, scanned images, photographs, resize (maintain aspect ratio), crop, position, rotate, add border, drawing tools to add text boxes linking text flow, linking/embedding objects: such as a spreadsheet, graph or chart, ensuring changes to the source automatically update in the document. Media: pre-recorded audio/video clips, audio/video formats. **AC 1.2:** Table: insert and delete rows and columns, insert and edit data, adjust row height and column width, merge and split cells, add borders and shading. Charts: pie chart, bar chart, line chart, diagram, organisational chart, flowchart. **AC 1.3:** Combine images/graphics, charts, tables with text, insert, resize, rotate and position, use of text boxes, with audio/video, import/export, internal bookmarks, external hyperlinks. **AC 1.4:** Save and retrieve presentations in line with local guidelines and conventions where available: save, save as, save as PDF (for publishing) search, open, print, share, export, close, naming protocols, version control, reduce file size, save presentation as show, My Documents, local storage/external storage devices (hard drive, USB), remote storage (Dropbox, Google Drive). **AC 1.5** Current legal and ethical constraints such as copyright, eSafety, use of appropriate content, acknowledgment of sources, avoid plagiarism, promoting equality and diversity, local guidelines on delivery (environment, resources, timing, audience, etc).
Learning Outcome 2: **AC 2.1:** Layout, templates, designs and styles, organisational guidelines and house style (where applicable). **AC 2.2:** Editing tools: size, crop and position objects (text box, block arrow, rectangle, square, oval, circle, line), format objects (colour, line width, line style, add text to object, format text in object), format slide text (font style, font size, bold, underline, italic, colour, case), wrap text, add captions, add graphic elements, slide order, change orientation, delete/copy/move slides, hide/unhide slides, undo/redo. Formatting tools: bullets, numbering, line spacing, alignment, colour, fonts, size, backgrounds, colour schemes, themes, use of view modes (normal, outline view, slide sorter, notes page). **AC 2.3:** Video, sound, animation, slide transition, visual effects, sound effects, hyperlinks, add/remove hyperlinks, apply and create transitions, apply animations.

Indicative Content: Presentation Software
AC 2.4: Accuracy: spell check, grammar check, check slide layouts, check order of slide elements, check slide order, check orientation, check accuracy, consistency and clarity, check alignment and formatting, check images, tables and charts appropriately labelled and positioned,check transitions and timings, use FAQs, help facility, online videos/tutorials, accessibility checker. Inconsistencies: font style and size, page layout, margins, space, line and page breaks, figures, times, dates, measurements, punctuation.

Presentation Software

Level:	Level 2
Credit Value:	3
GLH:	24
Unit Number:	R/618/3692
Unit Aim:	This unit will develop learners' understanding of presentation software and how to create effective presentations for different purposes and audiences. They will also learn about inclusive design and how to apply techniques to ensure presentations are accessible.

This unit has 2 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Be able to create a presentation for different purposes and audiences.	1.1 Explain how audience and purpose can influence presentation format and content. 1.2 Use custom slide layouts, templates and designs appropriate for purpose and audience. 1.3 Enter and combine text, graphics, and media into a presentation to meet requirements. 1.4 Insert tables and charts to communicate information accurately. 1.5 Save and retrieve a presentation using local and remote storage methods. 1.6 Explain the legal and ethical constraints that need to be considered when creating presentations.
2. Be able to amend layout, edit and format a presentation to ensure accessibility.	2.1 Apply inclusive design techniques to make a presentation accessible. 2.2 Check presentation is fit for purpose, making corrections where necessary.

Indicative Content: Presentation Software
Learning Outcome 1: **AC 1.1:** Consideration of format/design and accessibility: font size, alternative text, colours, contrast, limiting animations and transitions, health and safety aspects, accessibility, considering and meeting audience needs (dyslexia, hearing/visual impairments), the importance of limiting the level of detail of graphical objects and text, apply the 10-20-30 rule to avoid 'death by PowerPoint' (no more than 10 slides, last no more than 20 minutes, use a font size no less than 30 point. How age, educational level, occupation, cultural background etc, influence on the content of a presentation. **AC 1.2:** Layout, templates, designs and styles, organisational guidelines and house style (where applicable), adapt and create new templates/design themes. **AC 1.3:** Will vary according to context. Text: appropriate font styles, size and colours. Graphics: images, scanned images, photographs, resize (maintain aspect ratio), crop, position, rotate, add border, drawing tools to add text boxes linking text flow, linking/embedding objects: such as a spreadsheet, graph or chart, ensuring changes to the source automatically update in the document. Media: pre-recorded audio/video clips, audio/video formats. Combine images/graphics, charts, tables with text, insert, resize, rotate and position, use of text boxes, with audio/video, import/export, internal bookmarks, external hyperlinks. **AC 1.4:** Table: insert and delete rows and columns, insert and edit data, adjust row height and column width, merge and split cells, add borders and shading. Charts: pie chart, bar chart, line chart, diagram, organisational chart, flowchart. **AC 1.5:** Save and retrieve presentations in line with local guidelines and conventions where available: save, save as, save as PDF (for publishing) search, open, print, share, export, close, naming protocols, version control, reduce file size, save presentation as show, My Documents, local storage/external storage devices (hard drive, USB), remote storage (Dropbox, Google Drive). **AC 1.6:** Current legal and ethical constraints such as copyright, eSafety, use of appropriate content, acknowledgment of sources, avoid plagiarism, promoting equality and diversity, local guidelines on delivery (environment, resources, timing, audience, etc).
Learning Outcome 2: Inclusive design techniques: • Making text and important visuals big enough to be read even from the back of the room. This includes graphics on slides, videos, posters, and other non-electronic material. • Using an easy-to-read font face (simple fonts with consistent thickness are often easier to read from a distance. Fonts where parts of the letters are thin are harder to read, avoid fancy fonts that are difficult to read.)

Indicative Content: Presentation Software
• Using sufficient colour contrast for fonts, backgrounds (does the presentation make sense in grey scale), enhance colour with labels, icons, or other visual markers. • Using keywords and short phrases in slides, not whole sentences, or paragraphs. • Making provided material accessible (handouts). • Appropriate use of slide transitions, animations, and other media. Best practices: • Sans serif is typically the most readable. • Be generous with spacing (between letters, words, and lines). • Use bold for emphasis - underline and italic change the letter shapes, making them less identifiable. • Use mixed case, not all caps. • (Reference: British Dyslexia Association Style Guide 2018) Fit for purpose: • Learners should show that they have considered the following: does it read well on screen, is it clearly legible when printed, is the layout suitable, is the presentation appropriate, are text styles consistent, are images appropriately sized and positioned, are charts fit for purpose and clearly labelled, are tables clear and appropriate, are animations/transitions correct, are timings appropriate, are sounds and video appropriate, is the design or theme appropriate, has organisational house style been used (where applicable). Accuracy: • Spell check, grammar check, check slide layouts, check order of slide elements, check slide order, check orientation, check accuracy, consistency and clarity, check alignment and formatting, check images, tables and charts appropriately labelled and positioned, check transitions and timings, use FAQs, help facility, online videos/tutorials, accessibility checker. Inconsistencies: • Font style and size, page layout, margins, space, line and page breaks, figures, times, dates, measurements, punctuation.

Project Management Software

Level:	Level 2
Credit Value:	3
GLH:	24
Unit Number:	Y/618/3693
Unit Aim:	Learners will develop the skills to use project management software tools and techniques to input and modify information to support the planning and management of projects.

This unit has 3 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Be able to use project management software to create and define projects.	1.1 Identify the information required when using project management software. 1.2 Create, save, and retrieve project management files using local and remote storage methods.
2. Be able to use project management software to plan and organise projects.	2.1 Enter project information into project plan. 2.2 Identify project milestones and deadlines on project plan.
3. Be able to use project management software to update and report on project progress.	3.1 Use editing and formatting tools to update resources and estimates. 3.2 Produce project reports for specific purposes. 3.3 Use filtering techniques to display specific project information.

Indicative Content: Project Management Software
Learning Outcome 1: **AC 1.1:** Project aims and objectives, scope, deliverables, tasks, key targets (milestones), timescales, physical/human/financial resources, stages, constraints, schedule, budgets, allocation of roles and responsibilities, dependencies, risks, outputs/deliverables. **AC 1.2:** Save and retrieve project management files in line with local guidelines and conventions where available: save, save as, save as CSV/PDF, search, open, print, share, export, close, version control, file size, My Documents, local storage/external storage devices (hard drive, USB), remote storage (Dropbox, Google Drive). Define project file properties and project options: start date, end date, scheduling options, project properties, project title, project manager.
Learning Outcome 2: **AC 2.1:** Tasks: duration, status, set reminders, priority, assign resources, constraints, deadlines, outlines, duration (PERT analysis). Schedule tasks (task calendar): base calendar, working-time calendar, nonworking time calendar, holiday, customise charts (e.g. Gantt chart). Resources: tasks (create, modify, copy, move, delete, split), task duration options (elapsed, duration, effort, estimated, set, modify). Resource availability and utilisation: human resources (roles and responsibilities), physical resources (equipment), financial resources (budget), time, milestones, deadlines. Dependencies: start to start, finish to start, lead time, lag time, predecessors, successors. **AC 2.2:** Milestones/deadlines: fixed cost, fixed duration, fixed work, critical, recurring, as late as possible, as soon as possible, must finish on, must start on.
Learning Outcome 3: **AC 3.1:** Cut, copy, paste, bold, italics, font size, style, colour etc, create project milestones, create and modify recurring tasks, update project task status in line with progress, complete, in progress, not started percentage, compare actual progress with project baseline to reschedule uncompleted tasks, review project information, sort tasks, filter tasks, update task progress, reschedule incomplete work. **AC 3.2:** Reports: task progress, project progress, resource allocation, resource usage, costs, prepare Gantt chart, network diagram. **AC 3.3:** Specific information: task lists, resource assignment, project costs, critical tasks, critical path.

Spreadsheet Software

Level: Level 2
Credit Value: 3
GLH: 24
Unit Number: H/618/3695
Unit Aim: Learners will develop an understanding of spreadsheet software tools and techniques to be able to produce spreadsheets. They will learn how to apply advanced formulae and functions to process data and use automated tools to aid productivity.

This unit has 4 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Understand the features of spreadsheet software and how spreadsheets are used.	1.1 Explain how spreadsheets are used for different purposes. 1.2 Explain how features in spreadsheet software can be used to improve productivity, accuracy, and usability.
2. Be able to create a spreadsheet to improve productivity.	2.1 Create a spreadsheet using advanced formulae and functions to process data. 2.2 Use automated features to aid productivity. 2.3 Use tools and techniques to edit and format spreadsheet data. 2.4 Display spreadsheet data in a graphical format.
3. Be able to review and refine a spreadsheet to improve usability.	3.1 Check spreadsheet for accuracy making refinements, as necessary. 3.2 Review how the spreadsheet meets requirements in relation to productivity and usability.

Indicative Content: Spreadsheet Software
Learning Outcome 1: • A spreadsheet stores, sorts, manipulates, and analyses data and presents it in tabular form, most common uses, to create budgets, to forecast future performance, calculate tax, completing basic payroll, producing charts and calculating revenues. • Uses: support decision making, presenting/analysing/manipulating data, perform calculations, cost modelling, stock control, repetitively and accurately performing calculations e.g. payroll, statistics, list management e.g. searching large datasets, interpreting data using sorting and filtering. • Features to improve productivity, accuracy, and usability (aid the presentation and output of data): cell replication and formatting, functions, page setup, graphs and charts etc, automated features (macros to automate tasks).
Learning Outcome 2: **AC 2.1, 2.2:** • Advanced formulae and functions, automated features: worksheets (headers, page breaks, links), cell manipulation (entering and editing data, auto filling, replication, conditional formatting (to highlight outcomes), cell formatting (colours, shading, merging cells, alignment), data manipulation (filters, sorts, pivot tables), formulae (add, subtract, divide, multiply), functions (sum, average, min, max, count, countIF, lookup, index), logical functions (IF, AND, OR, NOT), data validation, relative and absolute cell referencing, boxes (lists, drop-down), lookup tables, nested IF functions, cell/worksheet protection, conditional formatting, named ranges, relative and absolute cell referencing, macros, alternative file formats (PDF, HTML, CSV, XML, TXT). **AC 2.3:** • Tools and techniques: insert and delete rows and columns, page layout, e.g. margins, orientation, header and footer, format numerical data, e.g. integer, real, decimal, currency, date, autofill, copy and paste, move, replicate formulae, formatting tools, e.g. height/width, wrap text, merge cells, styles, e.g. bold, underline, italics, borders/shading, colours. **AC 2.4:** • Graphical format: types of charts and graphs (bar, pie, line etc), chart and graph formatting (titles, axis, labels, legend, resizing).
Learning Outcome 3: **AC 3.1:** • Check for: functionality, accuracy, and usability in relation to accuracy of numbers, formulas and any text; suitability of charts and graphs; layout and formatting; validity and accuracy of analysis; sorting out errors; use of reveal formulae; checking that user requirements met. **AC 3.2:** • Review spreadsheet in relation to user requirements, fitness for purpose, strengths and improvements.

Using Digital Technologies

Level: Level 1
Credit Value: 3
GLH: 24
Unit Number: M/618/3666
Unit Aim: Learners will learn how to use a range of digital technologies for different purposes. They will understand how to register for digital services such as online shopping and banking and manage online accounts safely and securely. Learners will also use online document systems to upload and download files, and use email, instant messaging, and social media to communicate and collaborate with others.

This unit has 3 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Know about digital technologies.	1.1 Identify digital services and their purposes. 1.2 Identify digital communications and their purposes 1.3 Identify different uses of online document systems.
2. Be able to use digital services and online document systems for different purposes.	2.1 Register with digital services 2.2 Manage online account settings safely and securely. 2.3 Use online document systems to upload/download files.
3. Be able to use digital communications for different purposes.	3.1 Use email and instant messaging. 3.2 Create a social media post and share content. 3.3 Create and publish a blog, wiki or podcast. 3.4 Schedule and host a virtual meeting.

Indicative Content: Using Digital Technologies
Learning Outcome 1: **AC 1.1:** Examples of digital services include: • Real-time information (train timetables, news services, traffic reports, flight status updates, weather) • Commerce (online banking, online auction websites, sales, travel, publishing) • Public services (passport, online tax returns, e-voting, applications for services/grants, revenue collection) • Education and training (online learning/training) virtual learning environments (VLEs) • Entertainment (online gaming, movie/music streaming) Some digital (transaction) services require users to provide information online in multiple steps, following provided instructions at each step, examples include online shopping, banking, public services etc. **AC 1.2:** Types of digital communication: • Email (Gmail, Hotmail) • Instant messaging, (Facebook Messenger, WhatsApp) • Social media (Facebook, LinkedIn, Twitter) • Audio-visual (Skype, Zoom, Microsoft Teams, Google Hangouts, GoToMeeting) • Online communities (Bebo, Edmodo, Flickr) Suitability for purpose: personal (family and friends) or professional (work or business), collaborative working, building networks, formal/informal, speed of delivery/response, connectivity, device compatibility. **AC 1.3:** • Online document systems: used to store, manage and track documents, images and other files, also paper based information captured through a document, also used for collaborative working, sharing documents and automatic backup through cloud storage services remote storage (Dropbox, Google Drive), content management systems, bespoke systems for downloading applications and forms, uploading CVs, images, version control, access permissions (read/write/read only).
Learning Outcome 2: **AC 2.1:** • Digital services: online shopping major players e.g. Amazon, eBay, Facebook Marketplace, Gumtree, etc, banking. • Travel, reservations and appointments: book transport and accommodation online (trainline.com, booking.com, expedia.com), make reservations online for events (eventbrite.com, ticketmater.co.uk), make appointments online at GPs, dentist, hairdressers etc. • Public services: central government services (e.g. applying for a passport, road tax, television license, Universal Credit, benefit calculators, accessing income tax information, etc.), local government services (e.g. paying council tax online, requesting collection of household rubbish,etc. • Online account: register account/manage account, setting account preferences, privacy, security, contact details, personal information.

Indicative Content: Using Digital Technologies
• Data validation and verification: data validation (process of comparing data with a set of rules to find out if data is reasonable), examples of types of data validation include: format check; checks data is in the right format, e.g. date in the format dd/mm/yyyy, presence check; checks that data has been entered into a field, range check: checks that a value falls within the specified range, e.g. GCSE grades can only range between 9-1, type check; ensures the correct data type has been entered, e.g. age should be a number. • Data verification (process of checking that the data entered exactly matches the original source to find out if data is accurate), data verification methods include: double entry; entering data twice, proofreading data; someone checks the data entered against the original document, echo; system repeats the data being entered. • Accuracy, reliability, personal information, upper/lower case, mandatory fields, CAPTCHA, auto-complete; e.g. postcode/address, data type • check; e.g. DOB (00/00/00), range check; e.g. mobile phone number should have 11 digits and no letters, special characters or spaces, consistency check; e.g. delivery date cannot be before the order date. **AC 2.2:** • Manage online accounts: strong password, appropriate username, don't save login credentials on public devices, awareness of when to use public/private profiles (where applicable), recognise secure websites, SSL encryption, https (s for secure), padlock symbol, valid certificate, secure certificates, app vs browser/website. **AC 2.3** • Learners should show some awareness of the importance of file size and type when uploading documents, and understand basic compression techniques to reduce file size (where applicable). • Upload/download documents: save/browse location, file size, appropriate filenames, editable documents (e.g. doc, rtf), non-editable documents (e.g. pdf), common file formats, doc, pdf, jpg/jpeg, gif, png.
Learning Outcome 3: **AC 3.1:** • Learners should be able to understand when it is appropriate to use email or instant messaging and vice-versa. • Emails: format text (font style, size, colour), format paragraphs (alignment, bullets, numbered list), email format (rtf, plain text, html), spell check, priority, draft, create and use email signatures, hyperlinks, work online, work offline, check spelling and grammar, signatures. • Read emails: decide on priorities, gather information needed to respond, decide when and who to copy in, open attachments (with care), save attachments (if appropriate). • Individuals and multiple recipients: To, Cc, BCc, from, subject, reply, reply to all, forward, distribution list, reply with history, options, set message flags for priority, confidentiality, response request, read receipt, vote. • Chats: photos and camera, editing tools, add participants for group contacts, privacy settings, status. **AC 3.2, 3.3:** • Selecting and creating content, including: text with appropriate formatting, images (appropriate for purpose, file size/type), web links, using appropriate language and

Indicative Content: Using Digital Technologies
tone, adding attachments such as an email with an invitation to attend an event , sharing appropriate content, blogs, wikis, podcasts. https://wordpress.com/create-blog/ https://pagely.com/blog/wordpress-wiki/ **AC 3.4:** Virtual meetings: • Carrying out checks: latest version of the software, check privacy settings, check for any limits on number of participants, check for any restrictions on length of meeting. • Arranging meeting: plan resources (time, location, participants, and equipment), set as recurring meeting, add meeting to calendar, invite participants, distribute agenda to participants. • Meeting settings: set to mute participants on entry, set/unset video for participants on entry, disable/enable file transfer during meetings, set screen sharing to host only, enable/disable join before host, set so only authenticated users can join, enable/disable password required, enable annotation. • Join meeting with or without video enabled, raising of electronic hand to ask to speak, use of chat or messaging, use mute when not speaking, share links (if permitted), check background is appropriate when using screen sharing, video/sound, apply settings if away from meeting, leave meeting when appropriate.

Using Digital Technologies

Level: Level 2

Credit Value: 3

GLH: 24

Unit Number: K/618/3696

Unit Aim: Learners will learn how to use a range of digital technologies for different purposes. They will understand how to register for digital services such as online shopping and banking and manage online accounts safely and securely. Learners will also use online document systems to upload and download files, and use email, instant messaging, and social media to communicate and collaborate with others

This unit has 3 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Understand the role of digital technologies in society.	1.1 Explain how digital services can be used for different purposes. 1.2 Explain how digital communications can be used for different purposes. 1.3 Explain how online document systems can be used for storage and collaboration.
2. Be able to interact and engage with digital services and online document systems for specific purposes.	2.1 Register with digital services and apply data validation and verification checks. 2.2 Manage and update online account settings safely and securely. 2.3 Demonstrate the use of different online document systems.
3. Be able to interact and engage with digital communications for specific purposes.	3.1 Use email and instant messaging. 3.2 Create a social media post and share content. 3.3 Create and publish a variety of digital content to meet needs. 3.4 Schedule and host a virtual meeting.

Indicative Content: Using Digital Technologies

Learning Outcome 1:

AC 1.1:

Examples of digital services include:

- Real-time information (train timetables, news services, traffic reports, flight status updates, weather)
- Commerce (online banking, online auction websites, sales, travel, publishing)
- Public services (passport, online tax returns, e-voting, applications for services/grants, revenue collection)
- Education and training (online learning/training) virtual learning environments (VLEs)
- Entertainment (online gaming, movie/music streaming)
- Some digital (transaction) services require users to provide information online in multiple steps, following provided instructions at each step, examples include online shopping, banking, public services etc.

AC 1.2:

Types of digital communication:

- Email (Gmail, Hotmail)
- Instant messaging, (Facebook Messenger, WhatsApp)
- Social media (Facebook, LinkedIn, Twitter)
- Audio-visual (Skype, Zoom, Microsoft Teams, Google Hangouts, GoToMeeting)
- Online communities (Bebo, Edmodo, Flickr)
- Suitability for purpose: personal (family and friends) or professional (work or business), collaborative working, building networks, formal/informal, speed of delivery/response, connectivity, device compatibility.

AC 1.3:

- Online document systems: used to store, manage and track documents, images and other files, also paper based information captured through a document, also used for collaborative working, sharing documents and automatic backup through cloud storage services remote storage (Dropbox, Google Drive), content management systems, bespoke systems for downloading applications and forms, uploading CVs, images, version control, access permissions (read/write/read only).

Learning Outcome 2:

AC 2.1:

- Digital services: online shopping major players e.g. Amazon, eBay, Facebook Marketplace, Gumtree, etc, banking.
- Travel, reservations and appointments: book transport and accommodation online (trainline.com, booking.com, expedia.com), make reservations online for events (eventbrite.com, ticketmater.co.uk), make appointments online at GPs, dentist, hairdressers etc.
- Public services: central government services (e.g. applying for a passport, road tax, television license, Universal Credit, benefit calculators, accessing income tax information, etc.), local government services (e.g. paying council tax online, requesting collection of household rubbish, etc.
- Online account: register account/manage account, setting account preferences, privacy, security, contact details, personal information.
- Data validation and verification: data validation (process of comparing data with a set of rules to find out if data is reasonable), examples of types of data validation include: format check; checks data is in the right format, e.g. date in the format dd/mm/yyyy, presence check; checks that data has been entered into a field, range check: checks that a value falls within the specified range, e.g. GCSE grades can only range between 9-1, type check; ensures the correct data type has been entered, e.g. age should be a number.

Indicative Content: Using Digital Technologies
• Data verification (process of checking that the data entered exactly matches the original source to find out if data is accurate), data verification methods include: double entry; entering data twice, proofreading data; someone checks the data entered against the original document, echo; system repeats the data being entered. • Accuracy, reliability, personal information, upper/lower case, mandatory fields, CAPTCHA, auto-complete; e.g. postcode/address, data type check; e.g. DOB (00/00/00), range check; e.g. mobile phone number should have 11 digits and no letters, special characters or spaces, consistency check; e.g. delivery date cannot be before the order date. **AC 2.2:** • Manage online accounts: strong password, appropriate username, don't save login credentials on public devices, awareness of when to use • public/private profiles (where applicable), recognise secure websites, SSL encryption, https (s for secure), padlock symbol, valid certificate, secure certificates, app vs browser/website. **AC 2.3:** • Different online document systems: for example, use of cloud based systems (Dropbox, Google Drive), applying for a job and uploading CV/covering letter, collaborating with others using a content management system, file sharing, retrieving and editing documents. • Learners must show awareness of the factors that affect upload/download of the importance of file size and type when uploading documents, and be able to apply compression techniques to reduce file size. • Upload/download documents: save/browse location, file size, appropriate filenames, editable documents (e.g. doc, rtf), non-editable documents (e.g. pdf), common file formats, doc, pdf, jpg/jpeg, gif, png, file resolution, resizing, cropping, drag and drop, consideration of file format, file size, document version control, levels of access and file permissions, including read, only, read/write and full control when sharing documents online, when uploading files the need to compress (.zip) files for download/upload, how files are compressed and expanded.
Learning Outcome 3: **AC 3.1:** • Learners should be able to understand when it is appropriate to use email or instant messaging and vice-versa. • Emails: format text (font style, size, colour), format paragraphs (alignment, bullets, numbered list), email format (rtf, plain text, html), spell check, priority, draft, create and use email signatures, hyperlinks, work online, work offline, check spelling and grammar, signatures. • Read emails: decide on priorities, gather information needed to respond, decide when and who to copy in, open attachments (with care), save attachments (if appropriate). • Individuals and multiple recipients: To, Cc, BCc, from, subject, reply, reply to all, forward, distribution list, reply with history, options, set message flags for priority, confidentiality, response request, read receipt, vote. • Chats: photos and camera, editing tools, add participants for group contacts, privacy settings, status. **AC 3.2, 3.3:** • Variety of digital content could include (but not limited to): blogs, wikis, and podcasts. • Selecting and creating content, including: text with appropriate formatting, images (appropriate for purpose, file size/type), web links, using appropriate language and

Indicative Content: Using Digital Technologies
tone, adding attachments such as an email with an invitation to attend an event , sharing appropriate content, blogs, wikis, podcasts. • https://wordpress.com/create-blog/ https://pagely.com/blog/wordpress-wiki/ **AC 3.4:** Virtual meetings: • Carrying out checks: latest version of the software, check privacy settings, check for any limits on number of participants, check for any restrictions on length of meeting. • Arranging meeting: plan resources (time, location, participants, and equipment), set as recurring meeting, add meeting to calendar, invite participants, distribute agenda to participants. • Meeting settings: set to mute participants on entry, set/unset video for participants on entry, disable/enable file transfer during meetings, set screen sharing to host only, enable/disable join before host, set so only authenticated users can join, enable/disable password required, enable annotation. • Join meeting with or without video enabled, raising of electronic hand to ask to speak, use of chat or messaging, use mute when not speaking, share links (if permitted), check background is appropriate when using screen sharing, video/sound, apply settings if away from meeting, leave meeting when appropriate.

Word Processing Software

Level: Level 2

Credit Value: 3

GLH: 24

Unit Number: K/618/3701

Unit Aim: This unit will develop learners' ability to maximise the tools available in word-processing software to prepare, process and produce a wide range of sophisticated and professional documents accurately and efficiently.

This unit has 4 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Be able to create and edit information in word processed documents for specific purposes.	1.1 Use appropriate templates to create a variety of documents in line with local guidelines. 1.2 Use editing tools to enhance document content. 1.3 Arrange information from a range of sources in documents. 1.4 Save and retrieve documents using local and remote storage methods.
2. Be able to modify style and layout to enhance document presentation.	2.1 Apply appropriate formatting and styles to enhance document. 2.2 Use page and section layouts. 2.3 Insert and modify tables. 2.4 Insert and edit graphics. 2.5 Use advanced word processing features.
3. Be able to proof and print documents.	3.1 Use tools to check documents for accuracy and consistency, making changes where necessary. 3.2 Print a variety of documents in appropriate formats.

Indicative Content: Word Processing Software

Learning Outcome 1:
Learners should recognise the requirements of the document and select and use the most efficient tools and techniques to meet purpose.
Documents should have a clear purpose and occupy multiple pages so that learners can apply a good range of skills, examples include, CV and covering letter, news article, formal report, questionnaire etc.

AC 1.1:
- Blank document, report, letter, invoice, agenda, memo, online template, custom template.
- Local guidelines: organisations, such as the learner's college or place of work, will have a house style which will include specific colour sets, font families, image positioning, for example, publications such as newspapers and magazines have very specific guidelines to follow.

AC 1.2:
- Edit: select, copy, cut, paste, undo, redo, find and replace, insert, delete size, crop, position.

AC 1.3:
- Organise information from a range of sources: mail merge letters and address labels, insert merge data fields, print merge outputs, insert charts created in spreadsheet software, insert images, insert, size, position, wrap, order, group, copy, paste, links, layout, house style.

AC 1.4:
- Save and retrieve documents in line with local guidelines and conventions where available: save, save as, save as, search, open, print, share, export, close, version control, file size, My Documents, local storage/external storage devices (hard drive, USB), remote storage (Dropbox, Google Drive).

Learning Outcome 2:

AC 2.1:
- Format: font size, font style, colour, bold, underline, italic, subscript, superscript, change case, special characters and symbols, alignment, bullets, numbering, line space, borders, shading, tabs, indents, hyphenation, format painter.
- Styles: heading styles, change existing styles to a heading, word, line, paragraph, or section.

AC 2.2:
- Page and section breaks, paper size and type, page orientation, margins, page numbering, header, and footer, arrange text in two columns, adjust page setup for printing, house style, heading styles.

AC 2.3:
- Create table, insert and delete rows and columns, insert and edit data, adjust row height and column width, merge and split cells, add borders and shading.

AC 2.4:
- Graphics: images, photographs, resize (maintain aspect ratio), crop, position, rotate, add border, drawing tools to add text boxes linking text flow.

AC 2.5:
- Advanced features include using outline features, mail merge, linking and embedding documents from another source, creating an index, a contents table or cross references, use of footnotes or end notes, macros to automate tasks.
- Outline features: headings at different levels, moving headings and associated sub-headings and body text, apply multi-level numbering to headings and sub-headings or paragraphs.

Indicative Content: Word Processing Software
• Mail merge (using a data file of variable data and creating a standard document to merge with the data file). • Macros: inserting pre-formatted tables, creating custom document formats, changes the style of text that is selected and inserts a heading above it. • Linking/embedding objects: such as a spreadsheet, graph or chart, ensuring changes to the source are automatically update in the document. • Password protecting a document.
Learning Outcome 3: **AC 3.1:** • Accuracy: spell check, grammar check, manual techniques (proof reading/peer review). • Consistency: font style and size, page layout, margins, space, line and page breaks, figures, times, dates, measurements, punctuation. **AC 3.2:** • Formats: printing specific page numbers of a document, print odd and even pages to enable double-side printing, print a data file, print copies of merged documents including variable data.

Exploring New and Emerging Digital Technologies

Level:	Level 2
Credit Value:	3
GLH:	24
Unit Number:	M/618/3683
Unit Aim:	Learners will explore new and emerging technologies and how they have influenced business operations and are used to meet business needs.

This unit has 2 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Know about new and emerging digital technologies.	1.1 Outline different new and emerging digital technologies.
2. Understand how new and emerging digital technologies are used.	2.1 Explain personal and business uses of new and emerging technologies. 2.2 Explain the costs, risks and benefits to organisations when investing in new and emerging digital technologies. 2.3 Explain the impact of new and emerging digital technologies on a particular sector.

Indicative Content: Exploring New and Emerging Digital Technologies
Learning Outcome 1: • Current and emerging digital technologies: mobile technology, intelligent computing, Internet of Things (IoT) and cloud technology and how different industries such as retail, banking, entertainment use them to meet business objectives. • Internet of Things (IoT): connecting devices over the internet, consumer usage, enterprise deployment, online connectivity, radio-frequency identification (RFID), near field communication (NFC), development of wearable technology (smart watches, smart glasses, smart technologies). Applications for current and emerging digital technologies: • Lifestyle and health: wearable technology, mobile devices, hoverboards, ebikes, driverless cars and trains, medical diagnosis/procedures. • Communication: 5G networks, increasing bandwidth, biometric recognition, serverless computing, blockchain, SD WAN (software-defined networking), internet protocols (IPv6). • Cloud technology: Software as a Service (SaaS), Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Data as a Service (DaaS). • Artificial intelligence: smart devices, robots (used in the motor/manufacturing industry, retail, telehealth), artificial neural networks used in the finance industry to detect fraud. • Virtual reality (VR): use of gaming technology in medicine, car and construction industry, aviation. • Augmented reality (AR): retail, medical, education, gaming. • Augmented analytics for business intelligence/applications. • 3D and 4D printing for home and business. • Use of drones: military, surveillance, weather, pilot school, agriculture, network rail (field maintenance). • Use of social media and vlogs in organisations.
Learning Outcome 2: • Business objectives: marketing, data capture and analysis, staff monitoring and support, customer support and service, product improvement, communicate/collaborate. • Organisations use technology based on: business type (product, service), needs and/or benefits of the customers/clients, hardware/software/network requirements, security issues. • Invest: improve productivity, meet business goals, improve efficiency, increase cost-effectiveness, achieve increased growth, for innovation, improve agility and competitiveness, for global communication, increase promotion and sales, a wider consumer reach, providing instant customer service, as part of the digital strategy/digital policies or business plan, feedback from stakeholders, customers, employees. • Benefits: improved efficiency, increased sales/profit, increased productivity, reduction in wasted time, reduction in costs, improved image/brand. • Drawbacks: change management (training, transition from existing to new technology), risk of loss of service/data, ethical considerations, consultation with stakeholders, data ownership, impacts on employees, data management and access, (privacy, security of data).

Indicative Content: Exploring New and Emerging Digital Technologies
• Legal and ethical implications: data security, personal security, online security, computer misuse, legislation (data protection, copyright, patents), tax avoidance, digital currency, tracking of goods and people. • Particular sector: for example, creative, IT, finance, machining and manufacturing, marketing etc.

Introduction to Programming

Level: Level 1
Credit Value: 6
GLH: 48
Unit Number: R/618/3658
Unit Aim: Learners will learn about the basic principles of computer programming to understand how programming works. They will develop graphic-based programming skills to design and develop their own computer program.

This unit has 4 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA - PASS
The learner will:	**The learner can:**
1. Know the basic principles of programming.	1.1 Describe the application of logic in programming. 1.2 Identify different programming languages. 1.3 State the main differences between graphic-based and text-based programming languages.
2. Be able to design a simple computer program in response to a client brief.	2.1 Outline programming requirements 2.2 Produce design documentation.
3. Be able to develop the program using a graphic-based programming language.	3.1 Develop the program using a graphic-based programming language.
4. Be able to test, document and review the program.	4.1 Test the program for functionality, making refinements where necessary. 4.2 Create documentation for the program. 4.3 Review how well the program meets the client brief, making suggestions for further improvements.

Indicative Content: Introduction to Programming
Learning Outcome 1: **AC 1.1:** Understand that computers are based on a two-value logic system – 1/0, on/off, yes/no, and that they perform calculations using computational logic and of logic gates, And, Or, Not, input/output, truth tables. Understand how computers use logic to make decisions and run programs, how computers solve problems with logic, how computer programs store data, how functions work. **AC 1.2:** Languages: Python, Java, C++, Visual Basic, PHP, Perl (text-based), Scratch, Tynker, Blockly (graphical/block-based). **AC 1.3:** Text-based programming languages: write lines and lines of code which can be time consuming, higher level of technical knowledge required to understand the syntax (the set of rules of how to combine instructions so the computer can understand them). Graphical programming languages: visual therefore less intimidating to learn, commands to choose from so no need to memorise, easy for beginners to start coding, no syntax errors.
Learning Outcome 2: **AC 2.1:** Coding requirements: intended purpose and user requirements (as defined in client brief), a problem definition statement. **AC 2.2:** Designs should include: a proposed solution using design tools, e.g. a description of the main program tasks – input and output format (such as to add/multiply two numbers together and display a result), screen layouts and navigation, including programs (e.g. initial splash screen or main activity screen), algorithms with a description of the method of solution (flowcharts, pseudocode), data structures, data storage, control structures, data validation, error handling and reporting.
Learning Outcome 3: Graphical programming or block-based as opposed to text-based programming, where instructions are issued by dragging and dropping blocks which helps to prevent syntax errors, users do not need to memorise syntax to write code.
Learning Outcome 4: **AC 4.1:** Test the program: produce a test plan, record results, apply corrections and improvements, screen shots to evidence any changes. Testing: test strategy, test data, test plan structure, e.g. test, date, expected result, actual result, corrective action, error messages. **AC 4.2:** Documentation: annotate code, user guide. **AC 4.3:** Review the program against the client brief: learner should include reflections on their design documentation and program, along with strengths and areas for development, taking into account user feedback, own self-assessment, feedback from others (peers, tutors), suggested improvements to own work should include more efficient or effective ways of working, ways to improve their program, develop own skills, etc.

Computer Programming

Level: Level 2

Credit Value: 6

GLH: 48

Unit Number: T/618/3703

Unit Aim: In this unit learners will learn about the principles of computer programming to understand how programming works. They will develop text-based programming skills to design and develop their own computer program.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand the principles of programming.	1.1 Describe the key features of programming. 1.2 Explain how programming environments simplify the development process.
2. Be able to design a program in response to a client brief.	2.1 Determine programming requirements. 2.2 Produce design documentation.
3. Be able to develop a program using a text-based programming language.	3.1 Develop a program using appropriate algorithm, code and syntax.
4. Be able to test, refine, document and review the program.	4.1 Test and refine the program to ensure maximum functionality and usability. 4.2 Create documentation for the support and maintenance of the program. 4.3 Review the program against the client brief, making suggestions for further improvements.

Indicative Content: Computer Programming
Learning Outcome 1: **AC 1.1:** Types of programming: object oriented, event driven, procedural, graphical/visual. Languages: Python, Java, C++, Visual Basic, PHP, Perl, Scratch. **AC 1.2:** Environment components: integrated development environment (IDE), tool boxes and controls, toolbars, predefined functions, screen templates, help menus, debugging tools.
Learning Outcome 2: **AC 2.1:** Programming requirements: intended purpose and user requirements e.g. data requirements, audience, platform, intended use, security. (as defined in client brief), a problem definition statement. **AC 2.2:** Designs should include: a proposed solution using design tools, e.g. a description of the main program tasks – input and output format (such as to add/multiply two numbers together and display a result), screen layouts and navigation, including prototypes (e.g. initial splash screen or main activity screen), algorithms with step-by-step procedure showing inputs/outputs and a description of the method of solution (flowcharts, pseudocode), data structures, data storage, control structures, data validation, error handling and reporting.
Learning Outcome 3: • Develop a solution using suitable text-based programming language e.g. structural components of a program, sequencing, data types, data structures, strings, variables, constants, subprograms, input/output, operators. • Syntax: uppercase and lowercase characters, naming conventions, file naming, extensions, version control. • Debug: debugger software, trace statements, monitoring techniques, error messages.
Learning Outcome 4: **AC 4.1:** • Test the program/code: produce a test plan, record results, apply corrections and improvements, screen shots to evidence any changes to refine the code. • Testing: test strategy, test data, test plan structure, e.g. test, date, expected result, actual result, corrective action, error messages, specialist software tools, e.g. debug. • Error handling: debugging, e.g. compiler/translator, errors, e.g. logical, syntax, run-time. **AC 4.2:** • Documentation: listing/explanation of code, support and maintenance documentation, user guide (for client), etc. • Programming standards: use of comments, code layout, indentation. **AC 4.3:** • Review the program against the client brief: learner should include reflections on their design documentation and program, along with strengths and areas for development, taking into account user feedback, own self-assessment, feedback from others (peers, tutors), suggested improvements to own work should include

Indicative Content: Computer Programming
more efficient or effective ways of working, ways to improve their program, develop own skills, etc.

Mobile App Development

Level:	Level 2
Credit Value:	6
GLH:	48
Unit Number:	L/618/3688
Unit Aim:	Learners will investigate the characteristics and uses of mobile apps. They will also design, develop and test their own mobile app in line with a design specification.

This unit has 4 learning outcomes.

LEARNING OUTCOMES The learner will:	ASSESSMENT CRITERIA - PASS The learner can:
1. Understand the characteristics of mobile apps.	1.1 Explain the uses and features of different mobile apps.
2. Be able to produce a design specification for a mobile app for a specific purpose and audience.	2.1 Produce a design specification for a mobile app.
3. Be able to develop a mobile app to meet design specification requirements.	3.1 Prepare assets and content for integration with mobile app. 3.2 Produce a mobile app using an appropriate programming language.
4. Be able to test the mobile app against the design specification.	4.1 Use a test plan to carry out functionality testing.

Indicative Content: Mobile App Development
Learning Outcome 1: • Uses: to provide information (BBC, photo, video, music, Facebook, Instagram, Pinterest, Snapchat), for navigation (location identification, train stations, sandwich shop, WAZE, Google Maps, for entertainment (YouTube, Spotify, NETFLIX, Google Play Books), for leisure and fitness (tracking fitness, RunKeeper, MyFitnessPal), for communication (Skype mobile, Live Messenger, Fone Time, WhatsApp, Microsoft Teams), commerce (online banking, shopping). • Features: purpose of the app, user requirements, user-friendliness (what are the features of the interface/screens that are presented to the user? How does the user communicate with the app and make things happen?), device compatibility, cross platform/OS compatibility, interface elements, integration with other apps (for example a contacts list, text messaging). • Programming mobile apps: types of programming language; including C++, Java and XML and the reasons for compiling programs.
Learning Outcome 2: • Design specification must include: proposed solution that matches user requirements, resources, constraints, and legal and ethical issues/considerations.

Indicative Content: Mobile App Development
• Design specification should include details on: target platform, screen layout and navigation, control structures, algorithms, data validation, device capabilities, alternative solutions, constraints, legal and ethical issues/consideration. • Requirements for the mobile app: capability of the device, input and output requirements (touch screen, voice, video, audio, vibration), audience requirements.
Learning Outcome 3: • Programming constructs: constants (operators, input and output commands, variables, assignment, sequence, selection, iterations), data types (char, integer, real, Boolean), object and classes, event handling (forms, screen components, actions), device compatibilities (APIs, Android, iOS), executable for device.
Learning Outcome 4: • Test plan: test functionality, usability, user interaction, completeness, accuracy, design specification, user experience, user testing.

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