Level 1 Certificate in Open Systems and Enterprise

"Digital wisdom is the ability to think and act using knowledge, experience, understanding and insight related to digital technologies"

Ian Lynch founder of TLM

This is version 1.1 of the TLM handbook for school IT qualifications submitted for league table points from 2020 onwards and first published in January 2018. Further printed copies can be obtained from Lulu.com.

These Qualifications meet the requirements for:

The Regulated Qualifications Framework (RQF) which was designed by the UK government's Qualifications and Curriculum Development Agency now replaced by Ofqual in England.

The Credit and Qualifications Framework (CQFW) which was designed by Qualifications Wales.

The RQF and CQFW are referenced to the European Qualifications Framework devised by the European Union.

The assessment model for the qualifications presented in this publication was designed by TLM in consultation with industry experts, employers and other stakeholders to make sure the qualification is rigorous and will fully prepare young people with the skills required for further study or future employment, irrespective of the specific industry.

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1. Introduction

The world of ICT is rapidly evolving as more and more people work in a mobile way. However, the fundamental skills of managing data remains a constant. Whether this is working with online forms as part of application processes for jobs, local council applications, or analysing numbers for budget management, there is a need for good digital literacy skills.

This qualification is an introduction to some of the skills required to be an effective and efficient "digital native". The qualification revolves around the core skill of project management. What are the best tools to use for different jobs? What is the best way to create, manage and share data output? How can data be gathered and for what purpose?

To remix a famous quote from Mark Twain:

"The reports of the death of ICT have been greatly exaggerated."

While it is true that many consumers and producers of ICT no longer use traditional methods, such as desktop computers and large and unwieldy desktop software applications, they still have the same objectives and goals. They need to gather the right kind of data and make sure it is in the right format. They need to use that data and transform it into information that can be used to inform, persuade, convince, amuse others, or counter information created for specific purposes.

This Level 1 IT qualifications aims to equip learners with the ability to successfully plan, manage and execute projects involving digital tools and applications. It helps learners understand that the greater flexibility of data use and sharing facilitated by the Internet also means a higher need for security and safety. Learners will practice skills related to creating, editing, analysing and publishing different data types. They will learn what applications to use for specific file types and purposes. They will learn how to protect, share or manage this data.

This range of skills, knowledge and understanding will be demonstrated through a practical controlled assignment designed to replicate the real-world and through an external examination.

2. The Nature and Purpose of this Qualification

Who is this qualification for?

This qualification is designed for 14-16 yr old learners who want to understand how to manage digital projects and the associated applications that are required to make them successful.

The world in which we live is increasingly reliant on technology. Understanding the digital environment is fundamental to learning to deal with the vast range and volume of information, and making informed judgements about how it was created, for what purpose and for who.

The ability to use digital applications underpins courses in FE, HE or modern apprenticeships. The qualification will be a useful addition to a CV, if the learner is wanting to work in, for example:

Service Industries
Financial Services
Media
Construction
Retail
Agricultural
Travel and Leisure
Transport and Aviation

Many companies are looking for confident and competent users of digital applications to be able to create well formatted and engaging materials such as presentations, images or spreadsheets.

Materials created in this course can be used as part of a digital CV, including blogs and videos. This creates a favourable impression and allows the learner to demonstrate a wide range of skills.

This qualification will prepare learners for further studies in all subjects at Level 2 as they all require competence in digital tools and technologies. Learners can

work on a Level 2 IT qualification at post-16, or use the skills acquired in this course to enhance their other studies.

Further Education or apprenticeship studies in any subject will greatly benefit from the skills acquired here.

In terms of career options, the qualification will be suitable for all of the government's recognised digital pathways:

1. Digital Marketing: Units 1 and 4
2. Digital Communication: All units
3. Digital Data Analysis: Units 2 and 4
4. Digital Security: Units 3 and 4

What will the learner study?

Unit Title	Hours of Study	Skills, Knowledge and Understanding Covered	How it is Assessed
1. Improving productivity using IT	20	Skills to plan how to set up and manage an IT project using the correct and most suitable applications. Knowledge of the processes and measures of improving productivity that underpin success. Understanding of the rules and regulations that control IT projects and how these affect the materials created and used.	Pass/Fail coursework externally moderated by TLM
2. IT security for users	10	Skills to apply appropriate actions to protect from security problems. Knowledge of how attacks originate and how threats are created and administered. Understanding of the use of good backup strategies.	
3. Digital editing and publishing	30	Skills to create appropriate digital materials for publishing. Knowledge of tools and techniques to enhance publications.	

		Understanding of techniques used for editing to improve quality.	
4. Digital modelling	30	Skills to create working models to analyse data sets. Knowledge of formulae and functions to produce good results. Understanding of the best tools to make displays of output readable and useful.	
5. Digital design and graphics	30	Skills to select the most software tools to create graphics. Knowledge of how to manipulate graphics for different purposes. Understanding of the best tools to import and export work effectively.	

The units look at the best tools and applications for creating and managing digital resources. They also provide an understanding of the underlying technologies and methodologies that make these possible - particularly open source and open standards. You will investigate threats and security problems and ensure that data and information are protected from such threats by using policies and procedures effectively.

You will be able to research, develop and write more competent and engaging essays for subjects such as Humanities, as well as be able to manage graphical elements. You will understand how to find meaningful and true resources to support your arguments. In the science and mathematical subjects, you will be able to use data modelling skills to produce more accurate and results. You will learn the presentation skills required to submit these results in a clear and concise way for peer review and feedback. Your project management skills will facilitate your organisation and management of this material in a safe and secure way. Finally, you will be able to present all of this information as a digital materials to share securely as required.

What subjects will complement this course

Good digital literacy skills will complement and underpin most subjects. However, there is a close association with some or all of the following:

GCSE English – writing formatting and management
GCSE Maths – formulae, spreadsheets, analysis, charts and graphs
GCSE Science – as above
GCSE Computer Science – hardware and software
GCSE MFL – all languages
GCSE Humanities – all subjects
GCSE PSRE – blogs, journals
GCSE Business Studies – CV
GCSE Design Technology – design software, project management

Other technical and vocational subjects will require the use of digital literacy skills to create, store and share information.

Employer Involvement

This qualification has been developed in conjunction with a range of companies and academic institutions. We have also worked closely with Cisco in terms of the range of open platforms and technologies and with Open UK, the Open Source Trade Association.

3. This Qualification in Summary

Technical Sector: Digital

QAN Code: 601/4559/6

Age range: 14 –16

Teaching Time: Guided Learning 120 hours / TQT 160 hours

Mandatory Units		GLH
		Total 120
1	Improving productivity using IT	20
2	IT security for users	10
3	Digital editing and publishing	30
4	Digital modelling	30
5	Digital design and graphics	30

Assessment		
Assessment in Two parts		Total Marks Available
Coursework	Minimum 120 Hours, marked by centre, moderated by TLM	30
External Examination	1.5 hours Online/Paper Assessment	70

4. Assessment

The qualification at Level 1 has two assessment components both of which cover the full content of the qualifications.

1. Coursework assessed in terms of competence in practical areas where knowledge and understanding can be applied in real and motivating contexts.
2. An externally set and externally marked examination to assess knowledge and understanding that underpins user competence

Both assessment elements are designed to test different aspects of the learner's journey through the course.

The internal assessment facilitates the evaluation of tools and technologies in order to select those most appropriate to showcase digital and literacy skills.

The external assessment tests the depth and breadth of understanding combined with a grasp of key concepts and terminologies. It also tests ability to apply knowledge and understanding in an applied way through contextualised questions.

Learners will be expected to be familiar with the mathematical content of Level 1 functional skills.

https://www.gov.uk/education/functional-skills

A summary of the requirements that relate to this course is In Annex C.

Coursework

Evidence has to be provided against the unit assessment criteria from practical tasks related to the learners' everyday work supported by IT. This could be from specialist ICT lessons, from use of ICT in other subjects or a combination. The way evidence is gathered is up to the assessor, the only requirement is that it clearly supports the judgements against the assessment criteria and the relevant learning outcomes.

We encourage early submission of at least some evidence so that assessors are confident from the feedback that what they are providing is sufficient (and indeed

not over-kill). In this way we can maintain standards while supporting improved efficiency.

The Level 1 qualification requires 16 credits from 5 generic units that can be applied to a wider range of applications.
All candidates must complete the coursework before being eligible to take the exam. This provides an incentive to complete the coursework and makes it less likely that those sitting an exam are ill prepared.

Once the work has been completed and internally quality verified, the Unit should be submitted for moderation to TLM via the Moderation Portal.

The TLM moderation system will select a number of submitted learners to proceed with external moderation.
If the assigned moderation team agrees with the assessment decisions they will approve all the submitted learners within the award request.
If on moderation the account manager finds gaps in evidence related to a particular candidate they will request more evidence before approving the award of the unit certificate. Assessors can provide learners with feedback to support them with their second submission, should this be required. The TLM team will be available to advise assessors on work that consistently fails to meet the desired levels and support them going forward.

External Assessment

External assessment will be conducted via an online examination set by TLM consisting of 70 marks. The examination is only available to candidates that have completed the coursework to a satisfactory standard. This policy is designed to reduce the number of candidates taking an examination for which they are not well-prepared and to ensure that IT competence is validly assessed in the workplace rather than as a purely academic exercise or simulation. No candidate can achieve a qualification simply by taking a written exam. In terms of competence in a practical subject, we judge such scenarios to be invalid assessment.

These exams must be conducted under formal supervision conditions.

Candidates that provide sound evidence of meeting all the criteria across all mandatory units will be awarded 30 marks for their coursework. They will then be eligible to take the examination which is worth a further 70 marks.

Candidates achieving a total mark of 50 or more will be awarded grade Pass. Candidates achieving a total mark of 60 or more will be awarded a grade Merit. Candidates achieving a total mark of 70 or more will be awarded a grade Distinction and those achieving 80 or more a grade Distinction* . The examination questions will get progressively more difficult through the examination with scope to stretch the highest attainers without a very minor uncharacteristic error preventing the achievement of a top grade.

What will be assessed?
Both the internal and external assessments will cover the mandatory course materials. Each unit of material may be assessed through the practical materials developed in the coursework or through the more theoretical nature of the external examination. The table below shows the two main parts and how the Assessment Objectives are weighted in the examination and Controlled Assessment.

Weightings
The assessment objectives provided by the unit learning outcomes are approximately evenly weighted in the coursework element. The synoptic element underpinning the examinations at Level 1 is related to the following learning outcomes:

IPU 1 - Plan select and use appropriate IT systems and software to meet needs
IPU 2 - Review and adapt the on-going use of IT tools and systems to make sure that activities are successful
IPU 3 - Develop and test solutions to improve the ongoing use of IT tools and systems

These are collective contributors to AO3 - Competence in the use of IT to support learning.

These learning outcomes are contextualised in the range of Level 1 units and require the support of under-pinning knowledge and understanding. The examination provides a means of testing associated knowledge and understanding and of grading the qualification. For this aspect of the assessment the assessment objectives are:

AO1 - Recall, select and communicate knowledge and understanding.
AO2 - Analyse, evaluate, make reasoned judgements and present conclusions.

The overall weighting of the objectives will vary depending on the grade. Coursework is assessed across the full range of content internally with external moderation. The externally set and marked exam covers the full range of content. The coursework provides 30 marks and the exam has a maximum mark of 70.

Pass approximately weighted AO1 - 40%, AO2 - 20%, AO3 40%.

Distinction approximately weighted AO1 - 40%, AO2 - 40%, AO3 20%

Sample Materials
TLM will have sample materials of both internal and external assessments in addition to the samples contained in this guide. These will be available through TLM web sites and hard copy.

TLM will also provide a pre-formed online ePortfolio as a sample to show the type and quality of materials that are required to be produced. Details of this website and logins are available to registered centres. Centres may also discuss these sample materials with TLM and others during our regular training workshops.

Resit Opportunities
There will be one examination resit opportunity for candidates.

The highest grade will count towards the final grade.

Malpractice
TLM has comprehensive policies and procedures for dealing with malpractice. These are documented with links on the web site at

https://theingots.org/community/node/5492

Assessors should be familiar with these policies and make them clear to candidates. Assessors should inform their account manager if they suspect any instance of malpractice that could have a material effect on the outcome of any assessments, either for themselves or colleagues. This is part of the upholding of standards that is part of the contract with TLM.

Appeals
TLM has comprehensive policies and procedures for dealing with Appeals.

These are documented with links on the web site at

https://theingots.org/community/ofqual_appeals

5. Grading and Awarding

The grade is determined by a candidate's combined exam and coursework assessment marks with fixed boundaries for all. The pass mark is fixed and they have to achieve a minimum pass in both elements to get an overall pass grade.

How this qualification is assessed

Assessed Element	Time	Description	Contribution to final grade
Examination	1.5 hours	Online or paper based exam marked by TLM	**70 marks**
Coursework Assessment	Minimum 20 hours	Internally assessed by centre and externally moderated by TLM to determine the final grade	**30 marks**

Both elements have to be passed at the minimal threshold in order to achieve the base pass mark. The controlled assessment is marked by the centre out of 40 and externally verified by TLM. Each raw mark contributes to a mark on the final score.

How this qualification is graded

Assessment Elements	Minimum Pass Threshold			Maximum contribution towards final grade	
Coursework Assessment	30 marks			30 marks	
Examination	20 marks			70 marks	
Combined marks, Examination and Controlled Assessment	**Pass**	**Merit**	**Distinction**	**Distinction ***	**Maximum Marks**
Both elements need to be at minimum threshold	**50**	**60**	**70**	**80**	**100**

Learners must achieve a combined mark on the coursework assessment and external examination of 50 marks to pass. Below this would not equate to a Level 1 qualification requirement.

[The published grade boundaries may be subject to change]

Grade Descriptors

A **Distinction** level learner will be able to:

- demonstrate some understanding of how to plan using digital technologies and ability to complete most of the plan according to agreed schedules
- demonstrate a basic understanding of digital technologies by some explanation of some relevant facts and/or ideas and their connections, to include communicating those facts/ideas and supporting technical data
- adequately apply ideas/concepts to solving straightforward problems
- review the work undertaken in the project so that they can summarise some corrections to meet the needs of the brief

A **Merit** level learner will be able to:

- demonstrate a basic understanding of how to plan using digital technologies and some ability to complete the plan according to given support materials
- demonstrate some basic understanding of digital technologies by commenting on some basic facts and/or ideas and their connections, to include communicating those facts/ideas and supporting technical data with support
- apply ideas/concepts to working on well-defined and routine problems
- use suggested comments on the work undertaken in the project so that the work is subject to ongoing corrections to meet the needs of the brief

A **Pass** level learner will be able to:

- show some understanding of how to use given plans using digital technologies and some ability to complete the given plan according to given support materials
- show some simple understanding of digital technologies by using some basic facts and/or ideas and commenting on their connections to other ideas
- apply given ideas/concepts to working on well-defined and basic routine problems
- use suggested comments on the work undertaken in the project so that the work is subject to small corrections to meet a limited set of needs of
- the brief

Glossary

Clear understanding	The activity undertaken has the desired outcome and can be followed easily because of the quality of the explanation, labelling and/or communication
Good understanding	The activity undertaken demonstrates in the evidence the required outcome in terms of activities including communication, and data interpretation
Excellent ability	The activity undertaken demonstrates a very high level of competence and understanding of the issues.
Relevant	The evidence presented relates only to the desired outcome
Effectively	Applies skills, knowledge and/or understanding to a task and achieves the desired outcome
Review iteratively	The evidence presented shows cumulatively that it has been reviewed over time and adjustments made to reach the desired outcome
Reasonable (understanding)	The evidence presented demonstrates about three quarters of in the evidence to support the desired outcome in terms of activities including communication, and data interpretation
Good ability	The activity undertaken demonstrates the majority of the evidence for the desired outcome
Mostly clear	About three quarters of the activity is clearly expressed and communicated and has resulted in a desired outcome
Mostly effectively	About three quarters of the task has resulted in a desired outcome
Apply some iterative techniques	About half the reflective thinking resulting in technical changes have been made
Some corrections	About half of the corrections that would have been expected have been made
Some understanding ... and ability	About half of the necessary understanding is demonstrated in the desired evidence
Most of (plan completion)	About half of the necessary planning is demonstrated towards the desired evidence
Basic understanding	The evidence presented demonstrates about half of the evidence to support the desired outcome in terms of activities including communication, and data interpretation
Some explanation	The material offered for explanation is along the right lines, but perhaps lacks some detail or overall clarity.
Some relevant facts	The facts cited are relevant to the required work, but more facts would have added additional clarity and understanding.
Adequately (apply ideas)	The ideas applied go far enough to show some level of understanding, but could be more detailed and clearly defined.
Review work	Evidence is apparent that work has been checked for accuracy

	and that it meets the required objectives.
Summarise (some)	An attempt has been made at summary, but is only partly covering the objectives or range of requirements.

6. Unit Structure and Content

The following units are designed to give learners a broad range of skills, knowledge and understanding in the key aspects of digital technology. The overall focus of the qualification is on the best tools to use for a purpose. What is the best way to organise your materials and meet the needs of a client? What software applications are most suitable for creating different types of digital media and what tools can be effective? The first unit explores and practices some of the ways that IT projects are set up and used for creating, displaying and managing digital materials. In the second unit, there is also an overall focus on some of the threats to digital material and therefore to privacy.

All of the units complement each other and introduce and explore the best methods and practices to underpin successful digital literacy.

The following sections give some more details about what is required, in terms of learning objectives and some basic guidance for each of the sections, to give some examples of what would be good to teach. It is recommended that centres explore as many different tools and applications as possible, in order to meet the criteria.

All of the materials can be incorporated into an ePortfolio and TLM offer one for free to centres. This also includes a CV section so that learners can share their materials securely with colleges and employers as part of an application process.

Note: The units are summarised for convenience. More detailed descriptions and guidance are available on the TLM website. The advantage to a web based system is that the materials can be updated regularly and can include other materials such as videos and podcasts.

https://theingots.org/community/L1-ITQ

We also use open source systems from Moodle and Mahara to support teaching and learning.

https://moodle.org

https://mahara.org

Unit 1: Improving Productivity Using IT

20 GLH

1. Plan the use of appropriate IT systems and software to meet needs	2. Use IT systems and software efficiently to complete planned tasks	3. Review the selection and use of IT tools to make sure tasks are successful
1.1 I can identify the purpose for using IT in my work **1.2** I can identify the methods, skills and resources needed to complete my task successfully **1.3** I can plan how to carry out the task using IT to achieve the required purpose and outcome **1.4** I can identify reasons for choosing particular IT systems and software applications for the task **1.5** I can choose a particular technology to meet my needs **1.6** I can identify an acceptable use policy and legal requirements that affect my work	**2.1** I can identify automated routines to improve productivity **2.2** I can use automated routines to improve productivity **2.3** I can complete planned tasks using IT	**3.1** I can check the outcomes of my work to make sure they are as intended **3.2** I can decide whether the IT tools I chose were suitable for my task **3.3** I can identify some strengths and weaknesses in my work on completed tasks **3.4** I can suggest some improvements to make my work more effective

Learning Outcomes for this Unit:

The overall focus for learning in this unit is to explore the ways that digital material is managed and projects evaluated. It looks at how that data and information is generated and for what purposes. It practices the skills needed to create the material and investigates the efficiency of methods. It evaluates effectiveness and reviews laws and standards that help or hinder this process.

Learning Outcome 1: Planning

Learners will demonstrate their ability to **identify** the various requirements and client needs for a successful IT project. They will be able to **create** a working plan that will be a basis for judging any later success or areas for further improvement.

They will **explain**, using examples where possible, the choices made and any additional considerations relating to use and legal restrictions.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination, as well as practical application of their understanding through the controlled assessment.

Learning Outcome 2: Application

Learners will demonstrate that they can **identify** methods, such as automation, which will improve the overall productivity. They should be able to use or **create** their own simple methods of automation. They should be able to **demonstrate** their planning and efficiency ideas in the working of the overall plan.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination, as well as practical application of their understanding through the controlled assessment.

Learning Outcome 3: Review

Learners will will be able to **demonstrate** the choice of IT tools and applications to be able to complete a project and meet a client's needs. They will be able to **explain** how these applications are most suitable for their desired outcomes and demonstrate their understanding of the purpose of digital information, by working to a given specification. They will be able to show that they have checked their work against outcomes and can **identify** the areas that are suitable and ones that need more improvement.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination, as well as practical application of their understanding through the controlled assessment.

Suggested areas of teaching

This unit investigates the way that IT projects are planned and managed. Learners need to investigate as many different applications and processes as possible in order to be comfortable creating their own plans to a client brief.

Where possible, it might be useful to have visitors from local IT companies who can explain how they use IT and how they select the correct tools to complete tasks.

Many open source tools and applications are free to download and learners can explore with these. There are also increasingly web based productivity tools that can be used for simple project management of IT tasks.

Unit 2: IT Security for Users

10 GLH

1. Use appropriate methods to minimise security risks to IT systems and data
1.1 I can identify security issues that might threaten system performance
1.2 I can take appropriate security precautions to protect IT systems and data
1.3 I can identify threats to information security associated with widespread use of technology
1.4 I can take appropriate precautions to keep information secure
1.5 I can follow relevant guidelines and procedures for the secure use of IT
1.6 I can explain why it is important to backup data securely
1.7 I can ensure that my personal data is backed up to appropriate media

Learning Outcomes for this Unit:

The overall focus for learning in this unit is to understand and apply some basic security procedures and practices.

Learning Outcome 1: Understanding

Learners will be able to **demonstrate** that they understand some of the variety of treats that will affect any IT project that they work on, especially if it is shared and online. They will be able to **identify** the key threats and also the ways that might minimise their impact. They will be able to **apply** their understanding to their own material and the material they create for others.

Learning Outcome 2: Management

Learners will **demonstrate** their ability to follow guidelines when it comes to security. They will be able to **explain** some of the security problems they have identified that might impact on their work. They will **ensure** that their own work and the work of others is a safe as possible and stored securely with the correct media.

Assessment Objectives

In the controlled assessment, evidence will be demonstrated of how data will be managed and the associated rationale. Other concepts will be tested in the examination.

Suggested areas of teaching

Most learners will have had some exposure to the many threats to their own security that exist, such as SPAM emails and Phishing attacks. They need to explore these different threats in terms of what they do, how they are delivered and what possible ways are used to stop or limit them: anti virus software for example.

A talk from the centre's network manager might be useful to give them some idea of the amount of attacks that occur on a public facing system such as a school or college website and IT system. This will help them better understand what they need to plan for when working on their own projects.

Unit 3: Digital Editing and Publishing

30 GLH

1. Select and use appropriate designs and layouts for publications	2. Input and combine information within publications	3. Use software techniques to edit and format publications
1.1 I can identify the types of information needed in my work **1.2** I can identify a suitable structure for presentation **1.3** I can follow instructions to use the layout in accordance with guidelines **1.4** I can select and use appropriate media for the publication **1.5** I can evaluate a design in terms of its suitability for purpose **1.6** I can consider issues related to open systems	**2.1** I can identify copyright on information for import **2.2** I can identify file types suitable for import **2.3** I can convert file types to compatible formats **2.4** I can import information into a layout manager ready for editing and formatting **2.5** I can combine information to convey meaning to an audience **2.6** I can store and retrieve information in line with local guidelines **2.7** I can consider issues related to interoperability	**3.1** I can identify formatting and editing needs **3.2** I can apply appropriate editing techniques to information components **3.3** I can apply appropriate formatting techniques to information components **3.4** I can evaluate finished work in relation to intentions **3.5** I can assign a copyright license to finished work

Learning Outcomes for this Unit:

The overall focus for learning in this unit is to to explore the different ways to edit and format a range of digital materials. In most instances, at Level 1, these will include documents and presentations, but could be Desk Top Publishing materials and instructions for software applications. The emphasis is on the purpose of the publication and therefore the best tools and practices to edit it to meet those needs.

Learning Outcome 1: Design

Learners will demonstrate that they **understand and appreciate** different layouts and styles of information that will help them to solve their own design briefs. They will able to follow basic instructions and **modify** or use suitable layouts to make their own publications fit for purpose. They will be able to **demonstrate** that they can choose the appropriate types of media for output, including open source where appropriate.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Learning Outcome 2: Combining

Learners will be able to **demonstrate** that they can identify and use the correct type of files and materials to import into their working documents and presentations. They will be able to **store and retrieve** materials. They will **explain** the importance of interoperability.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Learning Outcome 3: Refining

Learners will be able to **create** a range of digital materials by using the correct formatting and editing skills. They will be able to **comment** on the quality of their finished materials in relation to what was expected.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Suggested areas of teaching

Learners should be allowed to investigate and interrogate a wide range of published materials and be allowed to discuss what features were used and why. The more materials they can look at and discuss, the stronger their own designs will be. They can use and modify templates in order to get an idea of what layouts are used in different situations.

The centre's office and administration staff might be able to discuss with learners some of the materials used by the centre for different purposes and allow learners to give them feedback on their suitability.

Unit 4. Digital Modelling

30 GLH

1. Use a modelling application to edit and organise data	2. Use appropriate tools, methods and feedback to build a model	3. Use IT tools to present a model to an audience
1.1 I can set up a structure for a model to meet needs **1.2** I can identify what numerical and other information is needed **1.3** I can enter and edit numerical data accurately **1.4** I can store and retrieve models effectively, in line with local guidelines and conventions where appropriate	**2.1** I can follow instructions to input information **2.2** I can select and implement tools that make the model functional **2.3** I can obtain feedback on the model **2.4** I can use feedback to improve the model	**3.1** I can select and use appropriate tools and techniques to prepare a model for presentation **3.2** I can present a model and explain its purpose **3.3** I can receive feedback graciously **3.4** I can evaluate finished work in relation to intentions **3.5** I can assign a copyright to finished work

Learning Outcomes for this Unit:

The overall focus for learning in this unit is to allow learners to learn how to create data models. These are generally used for analysing money based data such as for budgets. The models need to be constructed so that they are easy to adjust, i.e. for modelling "what if" situations. "What if our income increases by 10% over 2 years" etc. They will also practice the best ways to display the results of the model so that they make the most sense to the audience using them.

Learning Outcome 1: Organise

Learners will be able to **demonstrate** that they have created a structure for their numerical data which will allow them to input the results. They will **identify** the type and range of data required and understand the need for accuracy on input.

They will **create** a system that will be allow storage and retrieval of the generated data.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Learning Objective 2: Create

Learners will be able to **demonstrate** the correct use of tools in their modelling system to allow it to work as required. They will **collect** feedback from stake holders that will assist them in the function and style of their modelling system. They will **act** on the feedback to make improvements.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Learning Objective 3: Present

Learners will be able to **create** a working presentation of their modelling system uses the best tools and techniques to highlight the best features. They will **present** the working model and show the features that have been used and how these relate to given feedback. They will **include** in their presentation areas to show where they have met the intentions of the original plan.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Suggested areas of teaching

This unit is related to the design and development of a modelling system such as a budget designed on a spreadsheet. Learners will need to be introduced to a number of working systems so that they can think about how they will use the tools and features of the software application they have. They will need to go over some of the modelling specific features such as formulae and what-if functions to make sure the system works in a semi-autonomous way. They may need to do some cross curricula work with the maths department so that they can see what outputs are the most suitable.

Unit 5. Digital Design and Graphics

30 GLH

1. Plan the use of appropriate IT systems and software content for designs	2. Use IT systems and software efficiently to organise the content of the design	3. Use IT tools to present a model to an audience
1.1 I can set up a structure for a model to meet needs **1.2** I can identify what numerical and other information is needed **1.3** I can enter and edit numerical data accurately **1.4** I can store and retrieve models effectively, in line with local guidelines and conventions where appropriate	**2.1** I can use a range of techniques to manipulate design components **2.2** I can space and colour effectively **2.3** I can use appropriate precision in designs **2.4** I can use appropriate scale in designs	**3.1** I can export vector graphics to raster graphics **3.2** I can follow instructions to scale images to set dimensions **3.3** I can follow instructions to trade off image quality for reduced file size **3.4** I can evaluate finished work in relation to intentions **3.5** I can assign a copyright to finished work

Learning Outcomes for this Unit:

The overall focus for learning in this unit is to allow learners to learn how to design graphical images and components. The learners will use the correct tools and practices to ensure their designs are the correct size, format and composition to work in the intended environment.

Learning Outcome 1: Plan

Learners will be able to **identify** the needs of the project in terms of graphics, including the collection of items to use for remix activities. They will be able to **demonstrate** that they have understood and applied any pertinent laws, such as copyright. They will **combine** pre-made, but legal content with their own original materials and designs..

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Learning Objective 2: Create

Learners will be able to **demonstrate** the correct use of tools in their designs as required. They will **apply** skills in precision, scaling and quality control throughout their work.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Learning Objective 3: Export

Learners will be able to **generate** the correct file types through export filters and save as choices**.** They will **explain** the design limitations that occur when size is a higher requirement than quality. They will create designs that are fit for purpose and **apply** the correct licensing.

Assessment Objectives

Understanding of these learning objectives will be demonstrated through answering questions related to key ideas and concepts in the terminal examination as well as practical application of their understanding through the controlled assessment.

Suggested areas of teaching

In most instances this will be graphical image such as logos or banners for web sites, but could also be designs in manufacturing or construction with the appropriate software. Learners could also design characters for commuter games.

Learners need to discuss the laws and regulations that apply to graphical content so as not to violate any.

7. Sample Assessment Materials

Examination

Sample Examination

Examination Paper
To be used only under exam conditions

TLM Level 1 Certificate in Open Systems and Enterprise

QAN: 601/4559/6

Duration: Minimum time to fully answer the paper 50 mins. Candidates can continue to answer the paper for as long as they need, there is no maximum duration.

Candidate Name_____

ID _____

School/Academy_____

Instructions to candidates.
• Write your name, ID number and School in the space provided.
• Please try every question even if you find some parts difficult.
• You can pick up marks in all parts of the exam so be brave and go right to the end of the paper.
• Put the letter you think is correct next to the multiple choice question if you change your mind cross it out and write your new answer.
Only 1 answer can be accepted.
• Please use BLACK ink

Information for candidates
• The number of marks is given in brackets ( ) at the end of each question or part question.
• The total number of marks for this paper is 60

Important information for exams officers and teachers
TLM provide examinations on demand this requires the production of a large volume of exam papers. This paper will remain live and in circulation after your Candidate has finished the exam. This paper must remain confidential and not seen or used by teachers to prepare learners for exams. Please contact TLM for practice papers.

Turn over
Note: This is a short example of some of the questions used. Full sample exams are offered on our Moodle system. Logins available on request.

1. Your friend sets himself this target: "I will produce an e-portfolio by 17th May and share it in the cloud".

Why is this target not SMART?

A. It cannot be measured.
B. It needs a start date.
C. It is not specific enough.
D. It is not realistic.

(#7, P/M)

8. A web-based word processing software increases productivity because it

A. has more templates than MS Word.
B. depends on internet access.
C. allows editing by many users at the same time.
D. it needs an anti-virus check.

(#8, M)

9. Your academy wants to purchase a new accounting software.

What direct cost should they consider before they buy the software?

A. The cost of a software licence.
B. The cost of anti-virus software.
C. The cost of training the staff to use the software.
D. The cost of technical support.

(#6, M)

12. What is a bitcoin?

A. The smallest unit of computer memory.
B. A type of internet protocol.
C. A graphic design software.
D. A cryptocurrency and digital payment system.

(#11, M/D)

16. Your school network manager warns you that there is a phishing email being sent to students at the school.

What should you be looking out for?

An email that asks you to reply (1) with some personal details (1)

2 marks

(#2, P)

20. Give three examples of file extensions used for video.

.ogg, .flv, .mov, .mpeg etc. 3 types for 1 mark each

3 marks
(#4, P/M)

21. Collaborative software such as Google Docs is known as an office suite?

Name 4 applications that make up an office suite and give an example of a file extension created by each one.

The main examples will be:

Word processor – .doc, .docx, .odt etc
Spreadsheet – .xls, .xlsx, .ods etc
Presentation – .ppt, .pptx, .odp
Database - .mdb, .accdb, .odf

Other examples could be publishing software, so .pub, .sla (Scribus) or email, so .eml, .txt, .html.

4 marks
(#3, P/M)

26. Many companies in the UK have recently been victims of cyber attack.

What are some of the ways that companies are attacked and what damage is caused?

Companies might be attacked with a virus (1) which will delete or corrupt files (1)

They might be attacked by someone phishing for identity (1) which could lead to fraud (1).

Similar examples f attacks and consequences for 2 marks per example.

4 marks 2

27. Write a brief Acceptable Use Policy for an Internet Cafe.

The AUP will need to include a number of elements. They need to be clearly defined or explained. For example:

Users must not share their login details with anyone else (1). They must not use the login for bullying (1), or hacking (1). They must not download and use material that is copyright protected (1) or controlled with another restrictive license (1).

Other clear statements about legal issues, safe use and good behaviour.

5 marks 10

Sample Examination - Mark Scheme

Exam Question	Mark Scheme	Exam Syllabus Reference	Assessment Objective(s)
1	**1 mark** C	**7**	**AO1**
8	**1 mark** C	**8**	**AO2**
9	**1 mark** A	**6**	**AO1**
12	**1 mark** D	**11**	**AO2**
16	**2 marks** An email that asks you to reply (1) with some personal details (1)	**2**	**AO1**
20	**3 marks** .ogg, .flv, .mov, .mpeg etc. 3 types for 1 mark each	**4**	**AO2**
21	**4 marks** The main examples will be: Word processor – .doc, .docx, .odt etc Spreadsheet – .xls, .xlsx, .ods etc Presentation – .ppt, .pptx, .odp Database - .mdb, .accdb, .odf Other examples could be publishing software, so .pub, .sla (Scribus) or email, so .eml, .txt, .html.	**3**	**AO1**
26	**4 marks** Companies might be attacked with a virus (1) which will delete or corrupt files (1) They might be attacked by someone phishing for identity (1) which could lead to fraud (1). Similar examples f attacks and consequences for 2 marks per example.	**2**	**AO2**
27	**5 marks** The AUP will need to include a number of elements. They need to be clearly defined or explained. For example:	**10**	**AO2**

	Users must not share their login details with anyone else (1). They must not use the login for bullying (1), or hacking (1). They must not download and use material that is copyright protected (1) or controlled with another restrictive license (1). Other clear statements about legal issues, safe use and good behaviour.		

8. Centre Information

Centre Registration

This qualification requires centres to be registered with TLM and every learner to have a registration on the TLM Markbook site.

How TLM support this qualification
TLM has a comprehensive programme of staff support and development including:

1. An annual Moderation and Quality assurance review to verify centre compliance and maintenance of Centre Accreditation
2. Weekly teacher workshops at TLM offices in Tamworth
3. Access to a wide range of quality teaching and learning materials plus insights into qualification delivery methods on the TLM Moodle based website, https://learning.tlm.org.uk. This site also contains access to a range of revision and other materials provided by existing TLM centres who embrace the creative commons philosophy of open source
4. All statutory information and access to TLM markbooks and learning sites via, https://theingots.org

Centre Requirements

Procedures for Centre approval Full details can be found at
https://theingots.org/community/RQF5.11
The procedure for recognising the Centre is as follows:

- The Principal Assessor, on behalf of the Centre, confirms compliance with the contractual conditions by signing an agreement on the certification web site and provides details of the Centre's internal quality assurance procedures to the satisfaction of the Awarding Organisation.
- The continued compliance with the requirements of the Awarding Organisation is verified through a personal Centre engagement process where any deficiencies are noted on the Centre's account together with any actions needed to fully meet the requirements.

TLM is not a member of JCQ, though we recognise the guidance they give to schools and colleges regarding the appropriate management of public examinations. This is reinforced through spot checks and our Exams Officer’s Guide.

Full details of JCQ policies for candidates and for centre exam secretaries can be found at http://www.jcq.org.uk/exams-office

Key Dates

Key dates if results are to be included in the statistics for the current academic year

Coursework Assessment	**Must be submitted by 30th April**
Examination If results are to be included in the statistics for the current academic year	**Must be requested before 16 June**
	Must be completed by 30 June

Annex A

The following pages are the supporting materials for the controlled assessment process.

FAQS

What are the levels of control?

The control assessment is completed under different levels of control i.e. High control and Medium control.

High Control – Formally supervised.

Involves the 'Planning' stage and the 'Evaluation' stage. Work is done in a supervised classroom/IT Suite but not exam conditions. It may take more than one lesson but Learners cannot take work outside of the classroom.

Medium Control – Learners are formerly supervised by the teacher

This is the testing stage. Discussion is allowed. Teachers can ask the Learners to show and explain their work at any time.

Low control - Learners undertake research outside of the classroom. This would be the discovery phase that helped towards the other stages.

Can I have an introductory lesson, so that Learners know what is expected of them?

You should have an introductory discussion lesson when the Learners are given the appropriate theme sheets.

You can have a group discussion about what is involved in doing a Controlled Assessment, what is expected of them and the sort of data they might use and where it might be found. Between this lesson and the planning sessions Learners can be given time to think about what they will do and what data they will need. They can at this point explore the internet for data sets if that is appropriate. You may tell Learners what hardware and software is available.

Does the planning have to be done in one session/ lesson?

No. The Learners can do the work over several lessons, but you must collect in the work done to date at the end of each session.

Are the times listed compulsory?

No. The amount of time spent on each section of the Controlled Assessment is at the teacher's discretion.

What can Learners take into the planning session?

They can have a copy of the Learner's Notes and planning sheets.

Can Learners do the work by hand?

Yes.

Does there have to be silence in the room during the high controlled stages?

Yes. Learners can ask for help and advice, but you should not tell them exactly what to do.

Will there be help for teachers on what is expected from the controlled assessment phase?

Yes. The TLM regular workshops will discuss some examples of controlled assessment materials and sample projects as guides.

Annex B

Examples of mathematics associated with Level 1 Functional Skills in Numeracy used in this course.

Using numbers and the number system – whole numbers, fractions, decimals and percentages	
Criteria	Example
Read, write, order and compare large numbers (up to one million)	Working with budgets
Recognise and use positive and negative numbers	
Multiply and divide whole numbers and decimals by 10, 100, 1000	
Use multiplication facts and make connections with division facts	
Use simple formulae expressed in words for one or two-step operations	
Read, write, order and compare common fractions and mixed numbers	Working out values for testing the budget system
Find fractions of whole number quantities or measurements	
Read, write, order and compare decimals up to three decimal places	
Add, subtract, multiply and divide decimals up to two decimal places	
Approximate by rounding to a whole number or to one or two decimal places	
Read, write, order and compare percentages in whole numbers	
Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof	Design layouts and data modelling
Estimate answers to calculations using fractions and decimals	
Recognise and calculate equivalences between common fractions, percentages and decimals	

Work with simple ratio and direct proportions	

Using common measures, shape and space	
Criteria	Example
Calculate simple interest in multiples of 5% on amounts of money	Work out budgets
Calculate discounts in multiples of 5% on amounts of money	
Convert between units of length, weight, capacity, money and time, in the same system	Design work and measuring out graphics
Recognise and make use of simple scales on maps and drawings	
Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles	
Calculate the volumes of cubes and cuboids	
Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles	
Interpret plans, elevations and nets of simple 3-D shapes	
Use angles when describing position and direction, and measure angles in degrees	

Handling information and data	
Criteria	Example
Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs	Representing ideas about costs and budgets
Group discrete data and represent grouped data graphically	
Find the mean and range of a set of quantities	