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Specification

Edexcel Diplomas

Edexcel Level 1 and Level 2
Principal Learning in Information Technology

Issue 4
April 2010

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Edexcel, a Pearson company, is the UK's largest awarding body, offering academic and vocational qualifications to more than 25,000 schools, colleges, employers and other places of learning in the UK and in over 100 countries worldwide. Qualifications include GCSEs, AS and A Levels, NVQs, Diplomas and our BTEC suite of vocational qualifications from entry level to BTEC Higher National Diplomas, recognised by employers and higher education institutions worldwide.

We deliver 9.4 million exam scripts each year, with more than 90% of exam papers marked onscreen annually. As part of Pearson, Edexcel continues to invest in cutting-edge technology that has revolutionised the examinations and assessment system. This includes the ability to provide detailed performance data to tutors and students which helps to raise attainment.

This specification is Issue 4. Key changes are sidelined. We will inform centres of any changes to this issue. The latest issue can be found on the Edexcel website: www.edexcel.com

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Contents

Introduction to Edexcel's Diplomas

What are the Diplomas?

Diplomas have been developed to provide new and innovative qualifications for 14 to 19 year-old learners. They are a defined set of qualifications that have been combined according to a set of rules.

Diplomas are designed to support progression to further study, training or employment. Learners will have the opportunity to develop and practise work-related skills within a chosen employment sector.

Diplomas will be developed in 17 'lines of learning' which relate to different employment sectors. Employers in each sector have been involved in their design.

The lines of learning are:

For teaching from September 2008:

- Construction and the Built Environment
- Creative and Media
- Engineering
- Information Technology
- Society, Health and Development

For teaching from September 2009:

- Business, Administration and Finance
- Environmental and Land-based Studies
- Hair and Beauty Studies
- Hospitality
- Manufacturing and Product Design

For teaching from September 2010:

- Public Services
- Retail Business
- Sport and Active Leisure
- Travel and Tourism

For teaching from September 2011:

- Science
- Languages
- Humanities

Each Diploma will be available at three levels:

- Foundation – Level 1
- Higher – Level 2
- Advanced – Level 3

  Progression – Level 3.

The Foundation Diploma is broadly equivalent to five GCSEs. Similarly, the Higher Diploma broadly equates to seven GCSEs, whilst the Advanced Diploma broadly equates to three and a half GCE 'A' levels and the Progression Diploma to two-and-a-half GCE 'A' levels.

How are the Diplomas structured?

Foundation Diploma — 600 Guided learning hours (GLH)

Principal Learning *	240 GLH; at least 50 per cent must be applied learning.
Generic Learning	Work experience (minimum of 10 days) Functional skills * (English, ICT and mathematics) 120 GLH; Foundation Project * 60 GLH; Personal, Learning and Thinking Skills (PLTS) 60 GLH
Additional and specialist learning *	120 GLH

Higher Diploma — 800 Guided learning hours (GLH)

Principal Learning *	420 GLH; at least 50 per cent must be applied learning.
Generic Learning	Work experience (minimum of 10 days) Functional skills * (English, ICT and mathematics) 80 GLH; Higher Project * 60 GLH; Personal, Learning and Thinking Skills (PLTS) 60 GLH
Additional and specialist learning *	180 GLH

Advanced Diploma — 1080 Guided learning hours (GLH)

Principal Learning *	540 GLH; at least 50 per cent must be applied learning.
Generic Learning	Work experience (minimum of 10 days) Extended project * 120 GLH; Personal, Learning and Thinking Skills (PLTS) 60 GLH
Additional and specialist learning *	360 GLH

Progression Diploma (Level 3) — 720 Guided learning hours (GLH)

Principal Learning *	540 GLH; at least 50 per cent must be applied learning.
Generic Learning	Work experience (minimum of 10 days) Extended project * 120 GLH; Personal, Learning and Thinking Skills (PLTS) 60 GLH

* These components of the Diplomas are also freestanding qualifications in their own right.

What do Diplomas include?

As can be seen from the structure diagrams, Diplomas consist of three components:

- Principal Learning
- Generic Learning (including a project and work experience)
- Additional and/or specialist learning.

Principal Learning

Principal Learning is a freestanding qualification that is sector related, focusing on developing knowledge, understanding and skills that are relevant to the chosen sector and applying these to work-based situations.

It emphasises learning through the practical application of knowledge, understanding and skills to relevant work experience and work-related tasks, problems and contexts.

Generic Learning

Generic Learning consists of:

- functional skills in English, ICT and mathematics
- Personal, Learning and Thinking Skills (PLTS)
- a project
- work experience.

Functional skills and Personal, Learning and Thinking Skills (PLTS)

Functional skills are offered as stand-alone qualifications at Level 1 for the Foundation Diploma and at Level 2 for the Higher and Advanced Diplomas.

Opportunities to develop Personal, Learning and Thinking Skills will be embedded throughout the Principal Learning for the Diplomas, and will be assessed as part of these qualifications.

Generic skills are integrated into and reinforced within the Principal Learning. This means that the Principal Learning assessments will include opportunities for learners to achieve the Personal, Learning and Thinking Skills.

The Diplomas provide opportunities for learners to develop and apply functional skills and Personal, Learning and Thinking Skills within sector-related contexts. Further opportunities for learners to demonstrate these skills may also be offered in the project and in the work experience.

Project and extended project

The project and extended project are offered as stand-alone qualifications. As part of the Foundation and Higher Diplomas learners will complete the project qualification. Learners will complete the extended project as part of the Advanced Diploma.

The projects aim to enable learners to:

- develop as inquisitive and independent learners
- be inspired and enthused by new areas or methods of study
- extend their planning, research, analysis and presentation skills
- apply their Personal, Learning and Thinking Skills
- use their learning experiences to support their personal aspirations for further and higher education and career development.

Work experience

Each Diploma has a requirement for a minimum of 10 days' work experience, related to work-based activities, to support the programme of study.

Work experience will:

- support the development and recognition of work-related learning
- build on previous work experience
- develop sector skills when in relevant settings
- develop general employability skills
- enhance the overall learning experience
- allow flexibility around how evidence of attainment is achieved.

It allows learners to draw together, apply and add to their knowledge and to develop confidence and expertise.

Additional and specialist learning (ASL)

Additional and specialist learning consists of accredited qualifications at the same level as, or one level above, the Diplomas which have been approved under Section 96 of the Learning and Skills Act 2000. It may include qualifications that are also available to learners not taking the Diploma, or qualifications specifically developed to be part of the Diploma.

Additional learning is intended to broaden the learning experience by including qualifications from other sectors.

Specialist learning is intended to allow learners to specialise further in the sector by undertaking qualifications from the same sector as the Diploma.

Qualifications for additional and specialist learning must be selected from the ASL catalogue through the National Database of Accredited Qualifications (NDAQ). The catalogue includes qualifications that have the approval of the Diploma Development Partnership (DDP), and it will expand over time as more qualifications are approved. To access the catalogue go to www.ndaq.org.uk.

Structure and aims of Principal Learning in Information Technology

The Edexcel Diplomas in Information Technology: Principal Learning

The Edexcel Diplomas in Information Technology aim to:

- reflect the blend of business, technical and interpersonal skills needed in modern IT and telecoms professional roles
- develop valued transferable skills in English and communications, Maths, project management and Personal, Learning and Thinking Skills
- inspire learners through an exploration of the real-world integration of technology in business, supported by innovative approaches to content, delivery and assessment
- encourage more learners into technology-related careers with exciting content that is equally attractive to all learners
- help learners to prepare for adaptable careers and lives in the ever-changing landscape of the technology-enabled world
- boost learners' employability, whether after higher education or directly from the Diploma, through the use of up-to-date, employer-relevant content.

The structure of the Principal learning in Information Technology

Edexcel Level 1 Principal Learning in Information Technology

All units are compulsory.

Unit number	Title	GLH	Assessment
1	Technology in Organisations	30	External
2	The Impact of Technology	30	Internal
3	Working with People	60	Internal
4	Network Systems	30	Internal
5	Database Systems	30	Internal
6	Multimedia	60	Internal

Edexcel Level 2 Principal Learning in Information Technology

All units are compulsory.

Unit number	Title	GLH	Assessment
1	The Potential of Technology	60	External
2	Exploring Organisations	60	Internal
3	Effective Communication	60	Internal
4	Skills for Innovation	60	Internal
5	Technology Systems	60	Internal
6	Multimedia	60	Internal
7	Managing Projects	60	Internal

Unit format

All units in Edexcel Principal Learning qualifications have a standard format, which is designed to provide clear guidance on the requirements of the qualification for learners, tutors, assessors and those responsible for monitoring national standards.

Each unit is set out in the following way:

Unit title	The unit title is accredited by QCDA and this form of words will appear on the learner's Notification of Performance (NOP).
Level	This is the level of study of the qualification.
Internal/external assessment	Further details of the mode of assessment are given later in the unit.
Guided learning hours (GLH)	In the Principal Learning qualifications each unit consists of 30, 60 or 90 guided learning hours depending on the level. Guided learning hours is 'a notional measure of the substance of a unit'. It includes an estimate of time that might be allocated to direct teaching, instruction and assessment, together with other structured learning time such as directed assignments or supported individual study. It excludes learner-initiated private study. Centres are advised to consider this definition when planning the programme of study associated with this specification.
About this unit	This section is designed to give the reader an appreciation of the value of the unit in the vocational setting of the qualification, as well as highlighting the focus of the unit. It provides the reader with a snapshot of the aims of the unit and the key knowledge, skills and understanding developed while studying the unit. The unit abstract also emphasises links to the sector by describing what the unit offers the sector.
Learning outcomes	Learning outcomes state exactly what a learner should 'know', 'understand' or 'be able to' do as a result of completing the unit.
What you need to cover	This section identifies the depth and breadth of knowledge, skills and understanding needed to achieve each of the learning outcomes. This is illustrated by the range of subject material for the programme of learning and specifies the skills, knowledge and understanding required for achievement to the level required to comply with all mark bands. Each learning outcome is stated in full and then expanded with further detail on the right-hand side.

Learning outcomes and assessment criteria	This section contains learning outcomes and assessment criteria for the externally assessed unit. Learning outcomes and assessment criteria for internally assessed units can be found in Annexe F.
How you will be assessed	This section gives information about the assessment activities required for this unit.
Marking grid	Internally-assessed units have a marking grid that contains a list of assessment foci, with statements ordered into three mark bands. When work is marked it is judged against these statements and an appropriate mark awarded.
Guidance for teaching this unit	This section is designed to give tutors additional guidance and amplification on the unit in order to provide a coherence of understanding and a consistency of delivery and assessment. This section includes guidance on: • *Delivery* – this could, for example, explain the relationship between the content and the learning outcomes or guidance about possible approaches to delivery. • *Assessment* – this could provide amplification about the nature and type of evidence that learners need to produce in order to pass the unit or achieve the higher marks. This section should be read in conjunction with the marking grid. *Personal, Learning and Thinking Skills (PLTS)* – this section identifies where there may be opportunities within the unit for the generation of evidence to meet the requirements of PLTS. Assessors should take care to become familiar with PLTS and not to rely on the contents of this section when presenting evidence for moderation. The full PLTS framework is included in this document as *Annexe B*, but centres should refer to the QCDA website (www.qcda.gov.uk) for the latest version of the PLTS framework. *Functional skills* – this section identifies where there may be opportunities within the unit for the generation of evidence to meet the functional skill requirements. This section will also provide guidance relating to *work experience, specialist resources* and *reference materials*.

Assessment and grading of the Principal Learning

The purpose of assessment is to ensure that effective learning of each unit has taken place. Principal Learning units are assessed either internally by tutors or externally by Edexcel. Each unit is labelled clearly as internally or externally assessed.

It is essential that tutors familiarise themselves with and follow the guidelines set out in the document *Internal Assessment of Principal Learning Units: Controls for Task Setting, Task Taking and Task Marking* (see *Annexe E*) when developing assignments for internally-assessed units.

Internal assessment

Internal assessment will be used to facilitate assessment of generic and practical skills. It will be quality assured through internal and external moderation. It will be supervised and completed under controlled conditions.

Each unit is assessed through a single **assignment**, which has an overall purpose that reflects the aim of the unit, and is described in the *How you will be assessed* section. An **assignment** may be broken down into a few separate **tasks**. Tasks may be further broken down into smaller activities. The *Internal Assessment of Principal Learning Units: Controls for Task Setting, Task Taking and Task Marking* document details the nature of the controls that need to be applied to each type of task or activity and its outcome.

Where a unit is internally assessed, centres can use the sample assignments provided by Edexcel, or can design and quality assure suitable assignments. When designing assignments, centres are required to be aware of the following design principles (see relevant Tutor Support Materials for further guidance).

Assignments should be:

Fit for purpose	*They should consist of tasks that are related to the subject matter and content of the unit. For example, where a unit is centred on IT, the assessment will use IT at the core of the task.*
Manageable	*They should be designed to be manageable for both the learner and the centre.*
Secure	*They should be delivered under controlled conditions, where centres can guarantee the work produced is truly that of the individual learner.*
Reliable	*They should produce judgements of a similar standard from occasion to occasion and between different assessors.*
Valid	*They should assess what they are intended to assess in terms of the learning outcomes.*
Transparent	*They should be expressed in ways that can be readily understood by learners, tutors and assessors.*
Balanced	*They should fairly reflect the content and associated learning outcomes, avoiding confusing learning with assessment and not adversely affecting teaching and learning.*
Flexible	*They should provide opportunities for learners to produce a variety of forms of evidence.*

Centres are encouraged to use a variety of assessment methods. These might include, for example, the use of case studies, work-based assessments, projects, performance observation and time-constrained assessments. Centres are encouraged to place emphasis on practical application, providing a realistic scenario for learners to adopt, and making maximum use of practical activities and work experience.

The creation of assignments that are **fit for purpose** is vital to learners' achievement and its importance cannot be over emphasised.

When reading the marking grids and designing assignments, centres should note the following.

- Each internally-assessed unit has 30, 60 or 90 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, ie a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

External assessment

Some units in the Principal Learning must be externally assessed. These external assessments will be made available by Edexcel on agreed, published dates during the year.

For the Principal Learning in Information Technology, the following units will be externally assessed:

Level	Unit number(s)	Unit title(s)
Foundation	1	Technology in Organisations
Higher	1	The Potential of Technology

Calculation of the Principal Learning grade

Performance in each unit of Principal Learning will be assessed against criteria given in the marking grid, giving rise to unit **marks**.

Unit marks will be allocated according to marking criteria that do not bear a direct relationship to grading mark bands; that is, assessors will be clear that they are allocating **marks** and are not grading learners directly.

There will be no pre-published unit grade boundaries.

Once units have been completed by learners and marked, they will be graded by Edexcel through a separate process involving professional judgement of performance and of technical and statistical data. This will produce unit grade boundaries and hence unit grades that will be reported.

To permit the calculation of a Principal Learning qualification grade, Principal Learning unit marks will be converted to **points**. Points for all Principal Learning units will be added together to devise a Principal Learning score. Using published thresholds the Principal Learning score will be converted to a Principal Learning grade.

Calculation of the Diploma grade

The overall grade for the Diploma will be based only on grades obtained from Principal Learning and the project. However, achievement of **all** components within the Diploma will be required in order to gain the Diploma qualification.

Points for Principal Learning units (weighted as appropriate) will be added to points for the project to derive a Diploma **score**. Using published thresholds the Diploma score will be converted into a Diploma grade.

Programme design and delivery

These Principal Learning qualifications consist of units of assessment. Each unit is 30, 60, or 90 guided learning hours in length depending on the level. The definition of guided learning hours is 'a notional measure of the substance of a qualification'. It includes an estimate of time that might be allocated to direct teaching, instruction and assessment, together with other structured learning time such as directed assignments or supported individual study. It excludes learner-initiated private study. Centres are advised to consider this definition when planning the programme of study associated with this specification.

Mode of study

Edexcel does not define the mode of study for the Principal Learning of Diplomas but there is an explicit requirement that for at least 50 per cent of the time learners will be engaged in applied learning.

Applied learning

Acquiring and applying knowledge, skills and understanding through tasks set in sector contexts that have many of the characteristics of real work, or are set within the workplace. Most importantly, the purpose of the task in which learners apply their knowledge, skills and understanding must be relevant to real work in the sector.

Reference: *The Diploma* (Qualifications and Curriculum Authority, 2007)

Centres are free to offer the qualifications using any mode of delivery that meets the needs of their learners and the requirements of applied learning. For example this may be through a combination of traditional classroom teaching, open learning and distance learning. Whatever mode of delivery is used, centres must ensure that learners have appropriate access to the required resources (see individual units) and to the subject specialists delivering the units.

Assignments based on the work environment should be encouraged. Those planning the programme should aim to enhance the vocational nature of the Diploma by:

- liaising with employers to ensure a course relevant to the specific needs of the learners
- accessing and using non-confidential data and documents from workplaces
- including sponsoring employers in the delivery of the programme and, where appropriate, in the assessment
- linking with company-based/workplace training programmes
- making full use of the variety of experience of work and life that learners bring to the programme.

Delivery of applied learning

It is important that centres develop an approach to teaching and learning that supports the applied learning requirement of the Diploma. The Principal Learning specifications contain a balance of practical skill development and knowledge requirements, some of which can be theoretical in nature. Tutors and assessors need to ensure that appropriate links are made between theory and practice and that the knowledge base is applied to the sector. This will require the development of relevant and up-to-date teaching materials that allow learners to apply their learning to actual events and activity within the sector.

Tutors are reminded that **experiential learning** techniques are required and that the opportunities for formative assessment where learners benefit from regular and structured feedback are a necessary requirement of a Diploma programme.

Where learners are performing an activity by practically applying their knowledge and skills, they are essentially behaving in the required applied nature of the Diploma. By then reviewing that learning and considering how improvements can be made and implemented, experiential learning will take place (see *Figure 1*).

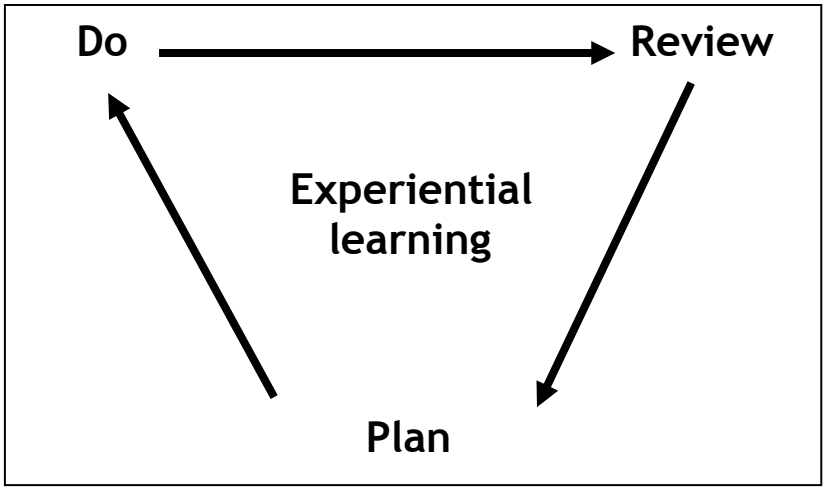


Figure 1: Experiential learning cycle

Resources

One aim of Diplomas is to prepare learners to progress to employment in specific sectors. Physical resources need to support the delivery of the programme and the proper assessment of the learning outcomes and therefore should normally be of industry standard.

Staff delivering programmes and conducting the assessments should be fully familiar with current practice and standards in the sector concerned.

Centres will need to meet any specialist resource requirements when they seek approval from Edexcel.

Assessment and learning

Summative assessment

Summative assessment serves to inform an overall judgement of achievement, which may be needed for reporting and review, perhaps on transfer between years in a school or on transfer between schools, perhaps for providing certificates at the end of schooling.

Although learners are working to satisfy a summative assessment (the marking grids reflect a final overall judgement), the benefit of formative assessment should be strongly emphasised throughout the learning.

Formative assessment

Formative assessment is concerned with the short-term collection and use of evidence as guidance of learning, mainly in day-to-day classroom practice.

In order for formative assessment to occur, the learner must understand what they have learned, what they have yet to learn and what they need to do to learn it. The responsibility of helping learners through a process of planning and reviewing their learning lies with the tutor.

Personal, Learning and Thinking Skills (PLTS)

Personal, Learning and Thinking Skills are necessary for work and for general learning. Learners will have opportunities to develop, apply and assess all the Personal, Learning and Thinking Skills within Principal Learning. Personal, Learning and Thinking Skills consist of the following six skills:

- independent enquiry
- creative thinking
- reflective learning
- team working
- self-management
- effective participation.

Annexe B contains detailed information relating to each of the six Personal, Learning and Thinking Skills.

Each unit requires learners to demonstrate Personal, Learning and Thinking Skills, which are a mandatory requirement and a key feature of the Diplomas. PLTS are to be used as both a guide on the delivery of each unit and a motivating formative indicator for the learner.

Coverage

All Personal, Learning and Thinking Skills are required to be covered and assessed during the delivery and assessment of the whole Diploma and provide the context for the delivery and assessment of the programme of learning. A final summary of the coverage is also provided in *Annexe B* which collates the coverage of PLTS throughout the programme.

Personal, Learning and Thinking Skills are an essential, embedded feature of the delivery and assessment of the Principal Learning. Learners may also develop and apply PLTS within the other components of the Diploma.

Centres should design the programme of study so that approximately 60 Guided learning hours will be allowed to enable learners to develop, plan and review the application of their Personal, Learning and Thinking Skills across their learning programme. PLTS will not be separately assessed as part of the Diploma but all six PLTS will be integrated into the assessment criteria for Principal Learning. Each learner's achievement of these skills will be recorded in the Diploma transcript.

How Personal, Learning and Thinking Skills are used to support formative feedback

Personal, Learning and Thinking Skills provide an excellent structural guide for the tutor when providing formative feedback to the learner. Tutors will be able to structure assessment and learning opportunities around PLTS and should use a pro forma sheet to indicate to the learner where progress has been made and where the learner needs to focus further development. A suggested sheet ('PLTS Performance Indicator') for this activity is provided in *Annexe B*.

The 'PLTS Performance Indicator' can be used by the assessor to feed back on work to the learner, showing the level of success that has been demonstrated during each assignment. The indicator is filled in by the assessor or supervisor to record the learner's performance at regular intervals during the course and ideally after every assignment. This informs the learner of their strengths and weaknesses and illustrates graphically where the learner should concentrate their efforts in the future.

Access and recruitment

Edexcel's policy regarding access to its qualifications is that:

- the qualifications should be available to everyone who is capable of reaching the required standards
- the qualifications should be free from any barriers that restrict access and progression
- there should be equal opportunities for all who wish to access the qualifications.

Centres are required to recruit learners to Edexcel qualifications with integrity. This will include ensuring that applicants have appropriate information and advice about the qualifications and that the qualification will meet their needs.

Centres should take appropriate steps to assess each applicant's potential and make a professional judgement about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the learner within the centre during their programme of study and any specific support that might be necessary to allow the learner to access the assessment for the qualification. Centres should also show regard for Edexcel's policy on learners with particular requirements.

Access arrangements and special considerations

Edexcel's policy on access arrangements and special considerations aims to enhance access to the qualifications for learners with disabilities and other difficulties (as defined by the Disability Discrimination Act 1995 and the amendments to the Act) without compromising the assessment of skills, knowledge, understanding or competence.

Further information

For further information please call Customer Services on 0844 576 0028 (calls may be recorded for training purposes) or visit our website at www.edexcel.com.

Useful publications

Further copies of this document and related publications can be obtained from:

Edexcel Publications
Adamsway
Mansfield
Nottinghamshire NG18 4FN

Telephone: 01623 467 467
Fax: 01623 450 481
Email: publications@linney.com

Related information and publications include:

- *Accreditation of Prior Learning* available on our website: www.edexcel.com
- *Guidance for Centres Offering Edexcel/BTEC NQF Accredited Programmes* (Edexcel, distributed to centres annually)
- *Operating Rules for Component and Diploma Awarding Bodies* (QCA, 2007)
- *The Diploma Structure and Standards, Version 2* (QCA, 2007)
- *The Statutory Regulation of External Qualifications in England, Wales and Northern Ireland* (QCA, 2004)
- *What is a Diploma?* (DfES and QCA, 2007)
- the ASL catalogue on the National Database of Accredited Qualifications (NDAQ) website: www.ndaq.org.uk
- the current Edexcel publications catalogue and update catalogue
- the latest news on the Diploma from QCDA available on their website: www.qcda.gov.uk/diploma
- the latest news on Edexcel Diplomas available on our website: www.edexcel.com/quals/diploma.

NB: Most of our publications are priced. There is also a charge for postage and packing. Please check the cost when you order.

Professional development and training

Edexcel supports UK and international customers with training related to our qualifications. This support is available through a choice of training options offered in our published training directory, or through customised training at your centre.

The support we offer focuses on a range of issues including:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
- building key skills into your programme
- building in effective and efficient quality assurance systems.

The national programme of training we offer can be viewed on our website (www.edexcel.com/training). You can request customised training through the website or by contacting one of our advisers in the Training from Edexcel team via Customer Services to discuss your training needs.

Our customer service numbers are:

The Diploma	0844 576 0028
BTEC and NVQ	0844 576 0026
GCSE	0844 576 0027
GCE	0844 576 0025
DIDA and other qualifications	0844 576 0031

Calls may be recorded for training purposes.

The training we provide:

- is active – ideas are developed and applied
- is designed to be supportive and thought provoking
- builds on best practice.

Level 1 units

Unit 1: Technology in Organisations

Principal Learning unit

Level 1

Guided learning hours: 30

Externally assessed

(29 hours' 15 minutes' learning time and 45 minutes for assessment)

About this unit

Technology can transform the way in which an organisation operates. It has the power to improve efficiency, open up new markets and enhance customer service.

In this unit you will investigate some of the technology systems used in business. You will learn about key components of technology systems including hardware, software, communications and networks.

Implementing or improving a technology system can help an organisation to be more successful. You will learn to recognise when an organisation would benefit from a new or improved system.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Know the key components of technology systems used in business

LO.2. Know why an organisation should implement or improve a technology system.

What you need to cover

LO.1 Know the key components of technology systems used in business

Technology systems:

- **Banking**: ATMs, online banking
- **Retail**: EPOS, EFTPOS, loyalty cards, self-service checkouts, fast food purchases
- **E-commerce**: online auction sites, music downloads, internet shopping, payment systems
- **Sport and leisure**: performance/attendance/monitoring of individuals within a sports centre, buying/reserving cinema tickets
- **Manufacturing**: CAD/CAM, process control
- **Transport and logistics**: GPS, traffic control, route finders, number plate recognition, item tracking

Key components:

- **Computers**: PCs, laptops, servers, mainframes
- **Input devices**: touch screen, scanner (eg barcode, biometric, OCR), magnetic stripe reader, chip and PIN, sensor, keyboard, card reader
- **Output devices**: monitor, printer, plotter, data projector, speakers, control devices
- **Storage devices**: hard disks, portable media, (eg CD, DVD, USB stick, SB card)
- **Communication**: networking (wired and wireless), mobile devices
- **Software**: operating systems software, application software, communication software, security software

LO.2 Know why an organisation should implement or improve a technology system

Reasons:

- to improve performance and cut costs
- to respond to changing circumstances, eg new opportunities, changes to legislation
- to access new markets
- to increase sales/revenue
- to improve internal/external communication

Learning outcomes and assessment criteria

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Know the key components of technology systems used in business	• identify and describe the key components of technology systems used in business
LO.2	Know why an organisation should implement or improve a technology system.	• identify the benefits of implementing or improving a technology system.

How you will be assessed

This unit is externally assessed with a 45-minute examination.

The unit will be assessed through a 45-minute multiple-choice exam with 45 marks available; each response is worth one mark.

Guidance for teaching this unit

Delivery guidance

The purpose of this unit is to draw learners' attention to the role that technology systems play in organisations.

Technology systems

Learners must become 'technology aware', noting components of technology systems whenever they come across them and finding out what they are for and how they work. They must be able to categorise them as input, output, storage or processing devices.

If possible learners should visit and investigate 'real' businesses, such as a high street store, a medical practice, a fast-food outlet, a leisure centre, a multiplex complex, a video hire shop, a factory or a hotel. Visits need to be well prepared beforehand, with time set aside afterwards for follow-up work in the classroom. Where visits are difficult to arrange case-study material can be used as an alternative, although learners are unlikely to find this approach as motivating or meaningful. A possible compromise is to use a mixture of case-study material and guest speakers from local organisations.

Reasons why organisations should implement or improve a technology system

Learners need to know why an organisation should implement or improve a technology system.

Technology is constantly evolving and learners need to be able to recognise when an organisation should consider implementing a new technology system or improving an existing one. Having the latest 'piece of kit' is not in itself a reason for investing in new or improved technology systems. Learners need to be clear about the benefits to the organisation the new or improved technology will bring.

This unit could be used to introduce some of the basic concepts of *Unit 4: Network Systems* and *Unit 5: Database Systems*.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

Although PLTS are not identified within this unit as an inherent part of the assessment criteria, there are opportunities to develop a range of PLTS through various approaches to teaching and learning. (*Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.)

Skill	When learners are …
Independent enquirers	LO.1 using the internet to find out about components of technology systems
Creative thinkers	LO.2 deciding how an organisation could implement or improve a system.

Functional skills — Level 1

Skill	When learners are …
ICT — Use ICT systems	
Interact with and use ICT systems independently to meet needs	
Use ICT to plan work and evaluate their use of ICT systems	
Manage information storage	
Follow and understand the need for safety and security practices	
ICT — Find and select information	
Select and use a variety of sources of information independently to meet needs	LO.1 finding out about key components of technology systems used by organisation
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information to suit its meaning and purpose, including: • text and tables • images • numbers • graphs • records	
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, independently, responsibly and effectively	

Skill	When learners are …
Mathematics	
Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine	
Identify and obtain necessary information to tackle the problem	
Select and apply skills in an organised way to find solutions to practical problems for different purposes	
Use appropriate checking procedures at each stage	
Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations	
English	
Speaking and listening – take full part in formal and informal discussions/exchanges	
Reading – read and understand a range of texts	
Writing – write documents to communicate information, ideas and opinions using formats and styles suitable for their purpose and audience.	

Work experience

The aim of this unit is to give learners a broad overview of the role of technology in organisations. Interaction with a wide range of organisations is likely to be more beneficial than a single work experience placement.

However, whilst undertaking work experience in an organisation, learners should be encouraged to explore how it uses technology to help it achieve its objectives.

Specialist resources

Fishpool B – *Edexcel Diploma: Information Technology: Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435471682

Reference material

BBC Bitesize revision for GCSE Business Studies	www.bbc.co.uk/schools/gcsebitesize/business

Unit 2: The Impact of Technology

Principal Learning unit

Level 1

Guided learning hours: 30

Internally assessed

About this unit

At a hospital in London, a trial found that the introduction of text message reminders reduced missed appointments from 40 per cent to 25 per cent.[1]

How is technology changing the way people work and spend their leisure time? How does it affect the way organisations work?

In this unit you will learn how and why organisations and individuals use technology, and will explore technology's impact on society.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Know how and why organisations use technology

LO.2. Know about the impact of technology on individuals and society.

[1] IT Insights: Trends and UK Skills Implications: A joint publication by e-skills UK and Gartner Consulting November 2004.

What you need to cover

LO.1	**Know how and why organisations use technology**	**Organisations**: public sector, private sector, voluntary **Uses of technology**: – **administration**: eg photocopiers, scanners, fax machines, printers, telephone systems, databases – **control and monitoring**: eg sensors, smoke/fire alarms, process control – **education and training**: eg simulations, on-screen testing, virtual reality, VLEs – **mobile working**: eg mobile phones, PDAs, wireless hotspots, GPS, bleepers – **marketing**: eg websites, touch-screen displays, digital broadcasts, desktop publishing – **sales**: eg EPOS, credit card readers, smart displays, on-line shopping, loyalty cards – **security**: eg CCTV, anti-theft tags, personal alarms, access cards, movement detectors **Reasons for use**: to improve efficiency, to increase profits**,** to improve communication, to access new markets
LO.2	**Know about the impact of technology on individuals and society**	**Individuals and society:** – **living**: entertainment and leisure, e-safety, privacy, travel, communication, e-citizenship – **learning**: ways of learning, access to information, types of qualifications – **working**: types of jobs, ways of working, skill set – **socialising**: social networking – **globalisation**: virtual communities, digital divide

How you will be assessed

This unit will be assessed by your teacher.

You will be assessed on your ability to carry out an investigation of (1) two business organisations and (2) the impact of technology on individuals and society.

You will collect all your evidence together in a portfolio.

Part 1 – Technology in organisations (LO.1)

You will find out about the technology used by two different organisations.

In each case, you will describe the technology used and how it helps the organisation.

Part 2 – Impact of technology on individuals and society (LO.2)

You will give examples of how technology affects the way in which individuals live, learn, work and socialise.

You will illustrate the impact of technology on society by giving examples of globalisation, the digital divide and virtual communities.

Marking grid

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Technology in organisations**	The learner may have needed some support, but has provided a brief description of the technology used in two different organisations with an indication of why it is used in each case. (0–7)	The learner may have needed some support, but has provided a description of the technology used in two different organisations including reasons for its use in each case. (8–11)	The learner has provided a detailed description of the technology used in two different organisations including reasons for its use and how it benefits the organisation in each case. (12–15)	15
LO.2 **Impact of technology on individuals and society**	The learner may have needed some support, but has provided some examples of how individuals use technology to live, work, learn or socialise with brief comments on how it affects them. (0–7)	The learner may have needed some support, but has provided some examples of how technology affects the way individuals live, work, learn and socialise, with comments on how it affects them. They must also have given an example of the impact of technology on society. (8–11)	The learner has provided some examples of how technology affects the way individuals live, work, learn and socialise, with detailed comments on how it affects them. They must also have illustrated the impact of technology on society. (12–15)	15
			Total marks	(15 + 15) = 30

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 30 or 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Marking grid A

Assessment focus LO.1 — Technology in organisations	
Mark band 1 (0–7 marks)	To be eligible for Mark band 1, the learner may have needed some support, but must have provided a brief description of the technology used in at least one organisation, with an indication of why it is used. To achieve full marks in this band, the learner must have provided a brief description of the technology used in two different organisations, including an indication of why it is used in each case.
Mark band 2 (8–11 marks)	To be eligible for Mark band 2, the learner may have needed some support, but must have provided a description of the technology used in two different organisations, including a reason for its use in each case. To achieve full marks in this band, the learner must have provided at least two reasons for its use in each case.
Mark band 3 (12–15 marks)	To be eligible for Mark band 3, the learner must have provided a detailed description of the technology used in two different organisations, including at least two reasons for its use in each case, giving some indication of how the technology benefits the organisation in each case. To achieve full marks in this band, the learner must have explained how the technology benefits each organisation.

Assessment focus LO.2 — Impact of technology on individuals and society	
Mark band 1 (0–7 marks)	To be eligible for Mark band 1, the learner may have needed some support, but must have provided some examples of how individuals use technology to live, work, learn and socialise. To achieve full marks in this band, the learner must have commented briefly on how the technology affects the way individuals live, work, learn and socialise.
Mark band 2 (8–11 marks)	To be eligible for Mark band 2, the learner may have needed some support, but must have provided some examples of how individuals use technology to live, work, learn and socialise, with brief comments on how it affects them. To achieve full marks in this band, the learner must have commented in more detail and must also have provided an example of globalisation and outlined its impact on society.
Mark band 3 (12–15 marks)	To be eligible for Mark band 3, the learner must have provided some examples of how technology affects how individuals live, learn, work and socialise. They must also have provided examples of globalisation, giving an outline of their impact on society. To achieve full marks in this band, the learner must have explained how each of the examples of globalisation illustrates the impact of technology on individuals and society.

Approaches to assessment

Learners must investigate the use of technology in two different organisations, for example a high street store and a GP's surgery.

They must gather examples of how individuals use technology for living, working, learning and socialising. They can choose any suitable way to present their evidence for example a digital time capsule or an information point.

Guidance for teaching this unit

Delivery guidance

This unit is 30 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 10 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

The purpose of this unit is to encourage learners to think about how technology affects how individuals and organisations work and communicate.

Learners will benefit tremendously from contact with local organisations and with individuals who use technology in one or more aspects of their lives, for example remote workers who use collaborative software to work with colleagues or people with disabilities who use technology to help them lead more independent lives.

Learners should be encouraged to broaden their outlook by considering how the use of technology has brought people closer together through virtual communities and globalisation, whilst at the same time opening up a divide between those who have access and those who do not.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Independent enquirers	LO.1 describing how and why technology is used by selected organisations including how it benefits them, planning and carrying out research LO.2 giving examples to illustrate how individuals use technology to live, learn, work and socialise, identifying questions to answer LO.2 illustrating the impact of technology on society, giving examples of globalisation, the digital divide and virtual communities, exploring issues from different perspectives.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Creative thinkers	LO.1 and LO.2 thinking about how and why organisations use technology
Reflective learners	LO.2 considering the impact of technology on individuals and society.

Functional skills — Level 1

Skill	When learners are …
ICT — Use ICT systems	
Interact with and use ICT systems independently to meet needs	LO.1 and LO.2: using ICT to find out about how organisations use technology and the impact of technology on individuals and society
Use ICT to plan work and evaluate their use of ICT systems	
Manage information storage	
Follow and understand the need for safety and security practices	
ICT — Find and select information	
Select and use a variety of sources of information independently to meet needs	LO.1 and LO.2: using ICT to find out about how organisations use technology and the impact of technology on individuals and society
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information to suit its meaning and purpose, including: • text and tables • images • numbers • graphs • records	LO.1 and LO.2: using IT to present the results of their investigations
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, independently, responsibly and effectively	

Skill	When learners are …
Mathematics	
Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine	
Identify and obtain necessary information to tackle the problem	
Select and apply skills in an organised way to find solutions to practical problems for different purposes	
Use appropriate checking procedures at each stage	
Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations	
English	
Speaking and listening – take full part in formal and informal discussions/exchanges	
Reading – read and understand a range of texts	
Writing – write documents to communicate information, ideas and opinions using formats and styles suitable for their purpose and audience.	LO.1 and LO.2: presenting the results of their research

Reference material

Fishpool B – *Edexcel Diploma: Information Technology: Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435471682

Unit 3: Working with People

Principal Learning unit

Level 1

Guided learning hours: 60

Internally assessed

About this unit

Are you a member of a sports team or a youth group? If so, you will already know how important it is to support one another. Businesses need teams of people working well together to be successful.

In this unit, you will work in a team and use IT to help you get a message across. You will only work well together if you communicate clearly and listen to one another. You will learn how your behaviour and actions can affect the team's performance.

You will consider different methods of communicating and how to choose the best method for a purpose. You and your team will demonstrate your skills by developing a set of publications for a specified purpose.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Know how and why different types of communication media are used for different business purposes

LO.2. Be able to use clear, appropriate English and demonstrate numeracy skills in a range of simple business-related communications

LO.3. Know how behaviour, personal styles and actions affect communication and achievement of objectives

LO.4. Be able to work in a team to meet agreed objectives, demonstrating active listening skills and effective, confident speaking skills

LO.5. Be able to reflect on the workings of teams and the different roles individuals play within teams, demonstrating self-awareness.

What you need to cover

LO.1	**Know how and why different types of communication media are used for different business purposes**	**Communications media**: means of transmitting and receiving information **Types of communication media**: digital (eg websites, blogs, emails, text messaging), print (eg newspapers, magazines, reports, brochures, posters), spoken (eg telephone, face-to-face, radio, podcast) **Business purposes**: to inform, get a message across, attract attention, entertain, educate, persuade
LO.2	**Be able to use clear, appropriate English and demonstrate numeracy skills in a range of simple business-related communications**	**Clear**: use of a range of simple sentence structures, correctly punctuated (including commas, and apostrophes), proofread and checked (for accuracy and meaning**)** **Numeracy skills**: use of appropriate mathematical techniques, simple formulae, graphs and charts to analyse and present numerical data, tested for accuracy **Contextually appropriate**: for the organisation, for the audience, for the subject matter **Business-related communications**: publications which communicate a message; digital (eg web pages, presentations), written (letters, reports, charts and graphs), spoken (eg telephone, face-to-face)
LO.3	**Know how behaviour, personal styles and actions affect communication and achievement of objectives**	**Behaviour, personal styles and actions**: professional/ unprofessional, helpful/obstructive, organised/disorganised, positive/negative; body language; speed and quality of work **Personality types**: eg ideas person, natural leader, peace maker **Effective communication and performance**: objectives achieved, targets and deadlines met
LO.4	**Be able to work in a team to meet agreed objectives, demonstrating active listening skills and effective, confident speaking skills**	**Work in a team:** – **agree objectives**: what must be done, for whom, by when – **plan**: allocate roles and responsibilities, agree procedures, draw up a team plan – **execute**: work cooperatively, communicate clearly, hold meetings, track progress, support others, respond well to feedback **Active listening skills**: listen without interrupting, respond appropriately to others **Effective, confident speaking skills**: contribute effectively to discussions, present information and views clearly and in appropriate language

LO.5	**Be able to reflect on the workings of teams and the different roles individuals play within teams, demonstrating self-awareness**	**Team performance**: what went well, what went badly, effectiveness of team, personality mix, contribution of individuals, feedback from a reviewer **Self-awareness**: strengths, weaknesses, areas for improvement, contribution to the team, feedback from and to others, how personal behaviour affected the performance of the team

How you will be assessed

This unit will be assessed by your teacher. There are two parts to the assessment.

You will be assessed on your ability to (1) investigate the use of different communication media for different business purposes, and (2) work as a member of a team to use IT to communicate a message.

You will collect all your evidence together in a portfolio.

Part 1 – Effective communications

a. Communication media (LO.1)

You will investigate how businesses use different communication media to get their message across to others.

b. Choice of business-related communications (LO.1)

As part of your team challenge you will be expected to produce a number of business-related communications. You will be required to comment on your choice of publications for the team task.

Part 2 – Team challenge

You will work in a team to plan and execute a task. Your aim will be to communicate a message in a business-related context, by making use of appropriate communication media. This will require good team work.

a. Forming a team (LO.3, LO.4)

You will begin by forming a team with a good combination of personalities and strengths. You will share the responsibilities and support other team members. You will help to create a team plan.

b. Communicating a message (LO.2, LO.3)

You will work in a team, using your combined skills to help achieve your objectives (a set of publications that communicate a message).

c. Team working (LO.3, LO.4)

You will contribute to team meetings by sharing ideas, discussing progress and making decisions. You will need to listen carefully and speak clearly. You will be involved in both individual and team activities, making use of feedback from others and acting as a reviewer for other team members.

d. Reflecting on performance (LO.3, LO.5)

You will consider how well your team worked together and how behaviours and actions affected communication and performance. You will look at how your performance contributed to the effectiveness of the project.

Marking grid A

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Communication media**	The learner may have needed some support, but has: • provided some brief comments about the three main types of communication media in business contexts • commented briefly on the choice of publications for the team task. (0–4)	The learner may have needed some support, but has: • provided some comments about the three main types of communication media in business contexts and their use • commented on the choice of publications for the team task. (5–7)	The learner has: • provided detailed comments about the three main types of communication media in business contexts and their use • commented on the choice of each publication for the team task. (8–10)	10
LO.3, LO.4 **Forming a team** **LO.2** **Communicating a message** **LO.4** **Team working**	The learner may have needed some support, but has: • submitted a team plan, with brief notes made during the project on team discussions and decisions made • produced some simple business-related communications that present both textual and numerical information and made a limited contribution to the team effort to communicate a message. (0–10)	The learner may have needed some support, but has: • submitted a team plan, with brief comments made throughout the project on team discussions and decisions made • produced some simple business-related communications that present both textual and numerical information and made some contribution to the team effort to communicate a message. (11–18)	The learner has: • submitted a team plan, with comments made throughout the project on team discussions (including initial meetings to agree objectives and allocate roles) and decisions made • produced several simple business-related communications that present both textual and numerical information and made a useful contribution to the team effort to communicate a message. (19–25)	25

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3, LO.5 **Reflecting on performance**	• made some brief comments on the performance of the team • made some brief comments on their own performance, demonstrating limited self-awareness. (0–4)	• made some brief comments on the performance of the team, including the effect of behaviour or actions on communication • made some brief comments on their own performance and contribution to teamwork, demonstrating reasonable self-awareness. (5–7)	• made some comments on the performance of the team, including the effect of behaviour or actions on communication • made some comments on their own performance and contribution to teamwork, demonstrating good self-awareness. (8–10)	10
			Total marks	(10 + 25 + 10) = 45

Marking grid B

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3, LO.4 **Team working**	The learner may have needed some support, but has: • communicated to some extent with other team members, demonstrating limited listening and speaking skills • responded to feedback received from others • made a limited contribution to help the team meet its objectives. (0–6)	The learner may have needed some support, but has: • communicated quite well with other team members, demonstrating reasonable listening and speaking skills • responded to feedback received from others and given some useful feedback to others • made some contribution to help the team meet its objectives. (7–11)	The learner has: • communicated reasonably well with other team members, demonstrating good listening and speaking skills • responded sensibly to feedback received from others and given some constructive feedback to others • made a reasonable contribution to help the team meet its objectives. (12–15)	15
			Total marks	(10 + 25 + 10 + 15) = 60

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 30 or 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Marking grid A

Assessment focus LO.1 — Communication media	
Mark band 1 (0–4 marks)	To be eligible for Mark band 1, the learner may have needed some support, but must have provided brief comments about two of the three main types of communication media (electronic, print, voice). To achieve full marks, the learner must have provided brief comments about all three main types of communication media and commented briefly on the choice of publications for the team task.
Mark band 2 (5–7 marks)	To be eligible for Mark band 2, the learner may have needed some support, but must have provided comments about two of the three main types of communication media (electronic, print, voice), with brief comments about the third type, and given a business-related use for each. They must also have commented briefly on the choice of publications for the team task. To achieve full marks, the learner must have provided comments about all three main types of communication media and commented in more detail on the choice of publications for the team task.
Mark band 3 (8–10 marks)	To be eligible for Mark band 3, the learner must have provided detailed comments about two of the three main types of communication media (electronic, print, voice) with comments about the other one, and given a business-related use for each. They must also have commented on the choice of publications for the team task. To achieve full marks the learner must have provided detailed comments about all three main types of communication media and commented on the choice of each publication for the team task.

Assessment focus LO.2, LO.3 and LO.4 — Team challenge	
Mark band 1 (0–10 marks)	To be eligible for Mark band 1, the learner may have needed some support, but must have produced at least one simple business-related communication that meets a limited number of the requirements. To achieve full marks the learner must have submitted a team plan with brief notes made during the project and have made a limited contribution to the team effort to communicate a message.
Mark band 2 (11–18 marks)	To be eligible for Mark band 2, the learner may have needed some support, but must have submitted a team plan with brief comments to track progress throughout the project. They must also have produced at least two simple business-related communications that present both textual and numerical information and meet some of the requirements, making a limited contribution to the team effort to communicate a message. To achieve full marks the learner must have made some contribution to the team effort to communicate a message.

Assessment focus LO.2, LO.3 and LO.4 – Team challenge	
Mark band 3 (19–25 marks)	To be eligible for Mark band 3, the learner must have submitted a team plan with sufficient comments to communicate progress throughout the project. They must also have produced at least two simple business-related communications that present both textual and numerical information and meet most of the requirements and another which meets some of the requirements, making some contribution to the team effort to communicate a message. To achieve full marks the learner must have produced at least three simple publications that meet most of the requirements and made a useful contribution to the team effort to communicate a message.

Assessment focus LO3 and LO.5 – Reflecting on performance	
Mark band 1 (0–4 marks)	To be eligible for Mark band 1, the learner may have needed some support but must have made some brief comments on the performance of the team. To achieve full marks the learner must have included some brief comments on their own performance, demonstrating limited self-awareness.
Mark band 2 (5–7 marks)	To be eligible for Mark band 2, the learner may have needed some support but must have made some brief comments on the performance of the team and their own performance and contribution to teamwork. To achieve full marks the learner must have included at least two brief comments on the impact of behaviours or actions on team communication, demonstrating reasonable self-awareness.
Mark band 3 (8–10 marks)	To be eligible for Mark band 3, the learner must have made some comments on the performance of the team and their own performance and contribution to teamwork, including at least two brief comments on the impact of behaviours or actions on team communication. To achieve full marks the learner must have included at least two good comments on the impact of behaviours or actions on team communication, demonstrating good self-awareness.

Marking grid B

Assessment focus LO.3 and LO.4 – Team working	
Mark band 1 (0–6 marks)	To be eligible for Mark band 1, the learner may have needed some support but must have communicated to some extent with other team members, demonstrating limited listening and speaking skills. For full marks in this band, the learner must have responded to feedback received from others and made a limited contribution as a team member.
Mark band 2 (7–11 marks)	To be eligible for Mark band 2, the learner may have needed some support but must have communicated quite well with other team members, demonstrating reasonable listening and speaking skills. They must have responded to feedback received from others. For full marks in this band, the learner must have given some useful feedback to other team members and made some contribution as a team member.
Mark band 3 (12–15 marks)	To be eligible for Mark band 3, the learner must have communicated reasonably well with other team members, demonstrating good listening and speaking skills. They must have given some useful feedback to others and responded sensibly to feedback received. For full marks in this band, the learner must have given some constructive feedback to other team members and made a reasonable contribution as a team member.

Approaches to assessment

Learners must work individually to investigate how businesses use different communication media to get their message across.

Learners must work in teams of three or four to carry out the team task.

Some of the business communications should be produced by individual team members, but at least one must be a joint effort, requiring contributions from all team members, eg a scrolling display.

Centres must supply learners with a detailed brief, specifying purpose, key requirements and target audience for their communication products. The brief must have a business-relevant context.

Guidance for teaching this unit

Delivery guidance

This unit is 60 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 20 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

The communication and numeracy skills acquired through this unit will underpin the whole programme of study and should be developed and practised as soon as possible in the course.

For this unit, learners will need to investigate the use of different types of communication media in business.

Learners should be given the opportunity to participate in various teams, eg a team collecting and sharing information from businesses or a team presentation about research for another unit, helping them to understand, practise and develop team skills. They could role play team meetings and deliberately introduce different or inappropriate behaviours, leading to a discussion of the effect this had on the other members of the team and on the performance of the team.

These skills will also be used in the team task, which involves learners working together to achieve an objective.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Reflective learners	LO.5 demonstrating self-awareness, evaluating experiences and learning to inform future progress
Team workers	LO.4 working in a team to meet agreed objectives, collaborating with others to work towards common goals LO.4 reaching agreements and managing discussions to achieve results LO.4 adapting behaviour to suit different roles and situations LO.4 showing fairness and consideration for others LO.4 providing constructive support and feedback to others LO.4 demonstrating active listening skills and effective, confident speaking skills reflecting on their performance as a member of a team, taking responsibility for their own contribution.
Effective participators	LO.3 giving feedback to other team members and reflecting on their contribution to performance of team.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Independent enquirers	LO.1 carrying out research on communication media
Creative thinkers	LO.2, LO.3 and LO.4 generating ideas and exploring possibilities for communicating a message
Self-managers	Planning and organising their contribution to the team task.

Functional skills — Level 1

Skill	When learners are …
ICT — Use ICT systems	
Interact with and use ICT systems independently to meet needs	LO.2 producing business communications using appropriate software
Use ICT to plan work and evaluate their use of ICT systems	
Manage information storage	
Follow and understand the need for safety and security practices	
ICT — Find and select information	
Select and use a variety of sources of information independently to meet needs	LO.1 investigating communications media
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information to suit its meaning and purpose, including: • text and tables • images • numbers • graphs • records	LO.2 producing business communications using appropriate software
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, independently, responsibly and effectively	LO.4 communicating with other team members

Skill	When learners are …
Mathematics	
Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine	
Identify and obtain necessary information to tackle the problem	
Select and apply skills in an organised way to find solutions to practical problems for different purposes	
Use appropriate checking procedures at each stage	
Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations	
English	
Speaking and listening – take full part in formal and informal discussions/exchanges	LO.3 and LO.4 participating in team meetings
Reading – read and understand a range of texts	
Writing – write documents to communicate information, ideas and opinions using formats and styles suitable for their purpose and audience.	LO.2 producing business communications

Reference material

Fishpool B – *Edexcel Diploma: Information Technology: Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435471682

Unit 4: Network Systems

Principal Learning unit

Level 1

Guided learning hours: 30

Internally assessed

About this unit

Connecting work stations to the network is one of the day-to-day tasks of an ICT support technician.

In this unit you will learn about network components and how to connect a PC to a network, so that it can access shared resources such as printers and drives.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Know how a PC is connected to a network

LO.2. Be able to connect a PC to an existing network and resolve simple problems.

What you need to cover

LO.1	**Know how a PC is connected to a network**	**Key components**: work station**,** network interface (eg network card, USB wireless adapter), connection infrastructure (eg switch, cabling, wireless base station), network resources (eg printer, network drive) **Networked PC systems**: peer-to-peer, client-server; wired, wireless
LO.2	**Be able to connect a PC to an existing network and resolve simple problems**	**Network connection:** – at least one PC connected to an existing network – PC configured to access a shared network resource **Testing**: functionality **Simple problems**: eg missing or out-of-date printer driver, simple connectivity problems, drive needs mapping

Marking grid A

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Network components**	The learner has identified some of the required components and shown some knowledge of their function. (0–4)	The learner has identified most of the required components and given a basic description of their function. (5–7)	The learner has identified most of the required components and given a good description of their function. (8–10)	10
			Total marks	10

Marking grid B

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.2 **Connect to the network**	The learner may have needed some support to: • connect a PC to the network and access a network resource. (0–8)	The learner may have needed some support to: • connect a PC to the network and access a shared network resource • carry out basic functionality testing. (9–14)	The learner was able to independently: • connect a PC to the network and access a shared network resource • carry out testing to ensure functionality. (15–20)	20
			Total marks	(10 + 20) = 30

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 30 or 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Marking grid A

Assessment focus LO.1 — Network components	
Mark band 1 (0–4 marks)	To be eligible for Mark band 1, the learner must have identified some of the required components. For full marks in this band, the learner must have shown some knowledge of the function of each component.
Mark band 2 (5–7 marks)	To be eligible for Mark band 2, the learner must have identified most of the required components and given a basic description of the function of some of them. For full marks in this band, the learner must have provided a basic description of the function of each component identified.
Mark band 3 (8–10 marks)	To be eligible for Mark band 3, the learner must have identified most of the required components and provided a good description of at least two of them, with a basic description of the others. For full marks in this band, the learner must have provided a good description of the function of each component identified.

Marking grid B

Assessment focus LO.2 — Connect to the network	
Mark band 1 (0–8 marks)	To be eligible for Mark band 1, the learner may have needed some support but must have connected a PC to a network. For full marks in this band, the learner must have shown that the PC can access a network resource.
Mark band 2 (9–14 marks)	To be eligible for Mark band 2, the learner may have needed some support, but must have connected a PC to the network and accessed a network resource. For full marks in this band, the learner must have carried out some basic functionality testing, identifying and resolving simple problems.
Mark band 3 (15–20 marks)	To be eligible for Mark band 3, the learner must have connected the PC to the network and accessed a network resource. They must have carried out some functionality testing, identifying and resolving simple problems. For full marks in this band, the learner must have carried out sufficient testing to ensure that the connection works properly.

Approaches to assessment

At Level 1, learners must connect a PC to an existing network and demonstrate that they can access a network resource, eg by selecting and using a network printer or mapping a network drive.

Before starting the 'build', they must produce a simple diagram identifying the components to be used and annotate it to explain their functions.

Learners can work in groups to carry out the 'build' activity. However, the assessor must be confident that each learner has fully met the requirements for the mark awarded.

The learner should be given details of any security measures implemented on the network they are to connect to, such as the WEP or WAP key on a wireless network. If a wireless network is being used for the assessment, the learner should be given the SSID.

Guidance for teaching this unit

Delivery guidance

This unit is 30 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 10 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

Learners will need to know about the key components of networked systems and understand their function.

Ideally a laboratory will be available for the 'build' activity. Appropriate attention must be given to health and safety requirements with respect to static mats, wrist bands, ensuring hardware and cables are positioned correctly, handling and storing of media correctly, disconnecting from the power supply before proceeding, etc.

It is useful to have a box of old hardware components that learners can look at and handle to bring the theory to life. Active learning approaches, such as matching network components to functions listed on cards, will familiarise learners themselves with the components and their functions. Ideally, a supply of PCs that are no longer required for use in the classroom, but are sufficiently current in their technology to make them a worthwhile 'build' activity, should be available.

Learners will need to understand the importance of network security and the procedures that should be implemented to keep networks secure.

They need to be taught the importance of systematic testing in order to identify faults and deal with straightforward problems. The centre's IT technician could be very helpful in supplying a list of 'typical' faults.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Independent enquirers	LO.2 successfully connecting to and using a networked technology system, applying problem-solving techniques
Creative thinkers	LO.2 resolving simple problems, trying out alternatives or new solutions and following ideas through
Self-managers	LO.2 seeking advice and support when needed.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Independent enquirers	LO.1 finding out how to connect a PC to a network LO.2 identifying problems and finding solutions.

Functional skills — Level 1

Skill	When learners are …
ICT — Use ICT systems	
Interact with and use ICT systems independently to meet needs	LO.1 producing a diagram showing the network components to be used LO.2 carrying out the 'build' activity
Use ICT to plan work and evaluate their use of ICT systems	
Manage information storage	
Follow and understand the need for safety and security practices	
ICT — Find and select information	
Select and use a variety of sources of information independently to meet needs	LO.1 finding out about the function of network components
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information to suit its meaning and purpose, including: • text and tables • images • numbers • graphs • records	LO.1 producing a diagram showing the network components to be used
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, independently, responsibly and effectively	

Skill	When learners are …
Mathematics	
Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine	
Identify and obtain necessary information to tackle the problem	
Select and apply skills in an organised way to find solutions to practical problems for different purposes	
Use appropriate checking procedures at each stage	
Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations	
English	
Speaking and listening – take full part in formal and informal discussions/exchanges	
Reading – read and understand a range of texts	
Writing – write documents to communicate information, ideas and opinions using formats and styles suitable for their purpose and audience.	

Reference material

Fishpool B – *Edexcel Diploma: Information Technology: Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435471682

Unit 5: Database Systems

Principal Learning unit

Level 1

Guided learning hours: 30

Internally assessed

About this unit

Businesses use databases to store information about their products, customers and employees.

A database is a collection of data that is set up in a way that makes it easy to organise and search for information.

In this unit you will learn how to create and use simple database systems.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Be able to create a simple database system

LO.2. Be able to use database tools to retrieve and present information.

What you need to cover

LO.1	**Be able to create a simple database system**	**Database system:** – **structure**: single table with appropriate field names, field lengths and data types – **data entry**: table, data entry form – **record handling**: enter, edit and delete records **Testing**: functionality, fitness for purpose
LO.2	**Be able to use database tools to retrieve and present information**	**Retrieve**: search (single criterion), sort (alphabetically/numerically, ascending/descending) **Present**: data sheets, database reports

Marking grid

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Create a simple database system**	The learner may have needed some support, but has: • created a simple database structure • entered, edited and deleted records with few errors. (0–7)	The learner may have needed some support, but has: • created a simple database structure and functional data entry form • entered, edited and deleted records accurately. (8–11)	The learner has: • created a simple database structure and data entry form, with limited customisation • entered, edited and deleted records accurately. (12–15)	15
LO.2 **Retrieve and present information**	The learner may have needed some support, but has: • retrieved some information from the database • presented results. (0–7)	The learner may have needed some support, but has: • retrieved some relevant information from the database • presented results clearly. (8–11)	The learner has: • retrieved some relevant information from the database • presented results in an appropriate format. (12–15)	15
			Total marks	(15 + 15) = 30

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 30 or 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Assessment focus LO.1 – Create a simple database system	
Mark band 1 (0–7 marks)	To be eligible for Mark band 1, the learner may have needed some support but must have: • created a simple database structure • entered, edited and deleted records. To achieve full marks in this band, the learner must have amended the records with few errors.
Mark band 2 (8–11 marks)	To be eligible for Mark band 2, the learner may have needed some support but must have: • created a simple database structure and basic data entry form • entered, edited and deleted records with few errors. To achieve full marks in this band, the data entry form must be functional and the learner must have amended the records accurately.
Mark band 3 (12–15 marks)	To be eligible for Mark band 3, the learner must have: • created a simple database structure and functional data entry form, with some attempt at customisation • entered, edited and deleted records accurately. To achieve full marks in this band, the learner must have demonstrated some awareness of audience and purpose.

Assessment focus LO.2 – Retrieve and present information	
Mark band 1 (0–7 marks)	To be eligible for Mark band 1, the learner may have needed some support but must have retrieved some information from the database, using simple searches and sorts. To achieve full marks in this band, the learner must have made some attempt to present results.
Mark band 2 (8–11 marks)	To be eligible for Mark band 2, the learner may have needed some support but must have retrieved some relevant information from the database using simple searches and sorts. They must also have made some attempt to present the results. To achieve full marks in this band, the learner must have made some attempt to present results clearly, eg suitable title, appropriate column widths.
Mark band 3 (12–15 marks)	To be eligible for Mark band 3, the learner must have used simple searches and sorts to retrieve some relevant information from the database and presented results clearly in an appropriate format for the audience. To achieve full marks in this band, the learner must have demonstrated some awareness of audience and purpose.

Approaches to assessment

Learners must be supplied with a set of user requirements specifying the audience and purpose for the database. It must be possible to meet these by creating a simple flat-file database. The requirements must be complex enough for learners to gain marks in the higher mark bands.

Guidance for teaching this unit

Delivery guidance

This unit is 30 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 10 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

Learners will need to learn why databases are used and what sort of information they can provide. They will need practice using existing databases, as well as creating and using simple databases of their own.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Creative thinkers	LO.1 generating ideas and exploring possibilities for a simple database system
Self-managers	LO.2 resolving problems, working towards goals, showing initiative, commitment and perseverance.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Independent enquirers	LO.1 finding out about databases
Creative thinkers	LO.1 and LO.2 developing their database system.

Functional skills — Level 1

Skill	When learners are …
ICT — Use ICT systems	
Interact with and use ICT systems independently to meet needs	LO.1 creating and using the database
Use ICT to plan work and evaluate their use of ICT systems	
Manage information storage	
Follow and understand the need for safety and security practices	
ICT — Find and select information	
Select and use a variety of sources of information independently to meet needs	LO.2 retrieving information from the database
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information to suit its meaning and purpose, including: • text and tables • images • numbers • graphs • records	LO.1 presenting the results of searches
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, independently, responsibly and effectively	

Skill	When learners are …
Mathematics	
Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine	
Identify and obtain necessary information to tackle the problem	
Select and apply skills in an organised way to find solutions to practical problems for different purposes	
Use appropriate checking procedures at each stage	
Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations	
English	
Speaking and listening – take full part in formal and informal discussions/exchanges	
Reading – read and understand a range of texts	
Writing – write documents to communicate information, ideas and opinions using formats and styles suitable for their purpose and audience.	

Reference material

Fishpool B – *Edexcel Diploma: Information Technology: Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435471682

Unit 6: Multimedia

Principal Learning unit

Level 1

Guided learning hours: 60

Internally assessed

About this unit

You use multimedia products all the time – using the internet, watching TV or playing a computer game.

In this unit, you will learn how multimedia is used in business and how to produce simple multimedia products yourself.

You will produce designs for your products. You will prepare different types of digital asset – audio, video, still images, movies and text – and combine them to create multimedia products for others to use. You will test your products to make sure that they work properly. You will use feedback from other people to help you.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Know how multimedia is used in business

LO.2. Be able to design, develop and test simple multimedia products

LO.3. Be able to seek feedback from test users to identify opportunities for improvement.

What you need to cover

LO.1	**Know how multimedia is used in business**	**Multimedia**: combinations of text sound, animation, still and moving images **Business uses**: promotion and advertising (eg web pages, digital posters, virtual tours), education and training (eg simulations, 'serious' games, e-learning packages), entertainment and leisure (eg computer games, virtual reality)
LO.2	**Be able to design, develop and test simple multimedia products**	**Multimedia products**: with limited interactivity (eg digital posters, adverts, quizzes, presentations, simple movies) **Design documentation**: storyboards, simple scripts, annotations, visuals **Develop**: create, edit, re-purpose, combine assets (sound, video, still images, animation, text) **Test**: for functionality and usability **Fit for audience and purpose**: meets specified requirements, includes appropriate features, is suitable for the intended audience, meets technical requirements (eg appropriate file size, format)
LO.3	**Be able to seek feedback from test users to identify opportunities for improvement**	**Seek feedback**: questioning, observation **Use of feedback**: to identify errors, suggest further enhancements **Test users**: representative of the target audience

How you will be assessed

This unit will be assessed by your teacher.

You will be assessed on your ability to (1) describe the use of multimedia in business and (2) develop simple multimedia products that meet specified requirements.

You will collect all your evidence together in a portfolio.

Part 1 – Multimedia in business

You will investigate two different uses of multimedia in business.

a. Use of multimedia (LO.1)

In each case, you will describe how and why multimedia is used.

Part 2 – Developing multimedia products

a. Design (LO.2)

You will produce design documentation for your multimedia products, supplying enough detail to enable someone else to develop them from your designs.

b. Development and testing (LO.2)

You will gather and prepare digital assets and combine them to produce at least two simple multimedia products, using prototyping and testing as part of the development process.

c. Evaluation (LO.3)

You will gather feedback from test users to help you identify ways in which your products could be improved.

Marking grid

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Use of multimedia**	The learner may have needed some support but has made some brief comments about two different uses of multimedia in business. (0–5)	The learner may have needed some support but has made some comments about two different uses of multimedia in business. (6–9)	The learner has provided detailed comments about two different uses of multimedia in business. (10–12)	12
LO.2 **Design, development and testing**	The learner may have needed some support, but has: • made use of basic up-front designs • developed at least two simple multimedia products that meet a limited number of the specified requirements. (0–15)	The learner may have needed some support, but has: • developed a basic up-front design for each product • developed at least two simple multimedia products that meet some of the specified requirements. (16–26)	The learner has: • developed an up-front design for each product • developed at least two simple multimedia products that meet most of the specified requirements. (27–36)	36
LO.3 **Evaluation**	The learner may have needed some support, but has: • made some brief comments about the products, with brief comments from a reviewer. (0–5)	The learner may have needed some support, but has: • made some comments about the products, with some useful feedback from a reviewer • given a simple suggestion for improvement. (6–9)	The learner has: • made some comments about the products, with some useful feedback from reviewers • given a sensible suggestion for improvement with some explanation. (10–12)	12
			Total marks	(12 + 36 + 12) = 60

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 30 or 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Assessment focus LO.1 — Use of multimedia	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner may have needed some support, but must have made brief comments about the use of multimedia in business. For full marks in this band, the learner must have made at least two brief comments about each of two different uses of multimedia in business.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner may have needed some support, but must have provided some comments about a use of multimedia in business, outlining how and why it is used, with at least two brief comments about a second use. For full marks in this band, the learner must have provided further information about the second use, outlining how and why it is used.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have provided detailed comments about a use of multimedia in business, explaining how and why it is used, with some comments about a second use. For full marks in this band, the learner must have provided further information about the second use, detailing how and why it is used.

Assessment focus LO.2 — Design, development and testing	
Mark band 1 (0–15 marks)	To be eligible for Mark band 1, the learner may have needed support, but must have: • produced at least one of the specified multimedia products, though there may be features that do not function as intended. To achieve full marks in this band, the learner must have produced all the specified products, though there may be features that do not function as intended, making use of basic up-front designs.
Mark band 2 (16–26 marks)	To be eligible for Mark band 2, the learner may have needed support, but must have: • carried out some basic up-front design work for at least one product • produced the specified multimedia products, though there may be some features that do not function as intended. To achieve full marks in this band, the learner must have developed basic designs for all products and it must be possible to infer that some testing was carried out on the products.

Assessment focus LO.2 — Design, development and testing	
Mark band 3 (27–36 marks)	To be eligible for Mark band 3, the learner must have: • produced an up-front design for each product • produced the specified multimedia products, though there may be some features that do not function as intended. To achieve full marks in this band, it must be possible to infer that some testing was carried out and the products must demonstrate some awareness of audience and purpose.

Assessment focus LO.3 — Evaluation	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner may have needed some support but must have gathered limited feedback from a reviewer and made at least one brief comment about each product. For full marks in this band, the learner must have made at least two brief comments about each of their products.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner may have needed some support but must have gathered some useful feedback from a reviewer (albeit limited) and made at least two brief comments about each of their products. For full marks in this band, the comments should be valid and the learner must have made at least one simple suggestion for improvement.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have gathered some useful feedback from a reviewer, made at least two valid comments about each of their products and a simple suggestion for improvement. For full marks in this band, the learner must have gathered useful feedback from a second reviewer and explained the suggestion for improvement.

Approaches to assessment

Learners should investigate the use of multimedia in business to improve their awareness of appropriate features they should incorporate into their own multimedia products.

Centres must supply learners with a detailed project brief, specifying the purpose, key requirements and target audience for their multimedia products. The brief must be demanding enough to allow learners to demonstrate their design skills (albeit basic) and technical competence, and must require them to produce at least two multimedia products with limited interactivity.

The brief must also give learners the opportunity to work with a range of assets, eg sound, video, still images, animation and text.

Guidance for teaching this unit

Delivery guidance

This unit is 60 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 20 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

Uses of multimedia in business

Learners need to become 'multimedia aware', recognising where multimedia is used and analysing the features that make it effective. They should be encouraged to make a note of any good examples of multimedia 'in action' that they come across. They should consider the target audience for each multimedia product they investigate and assess how well it addresses their needs. The wider their research and exposure to multimedia, the broader their understanding will be.

Design

Up-front design work is an important part of the development process. Learners will need to be taught how to produce useful design documentation and how to use it.

They will need to be aware of the impact of file size and format on performance and bear this in mind when designing their multimedia products.

Creation

Learners must develop and practise the technical knowledge and skills they need to produce multimedia products. They will need to learn how to create and edit different types of asset. Centres must provide a variety of software packages to enable them to do this. Presentation software on its own will not be sufficient. Learners will also need access to and be able to use various peripherals, including sound recording equipment, a digital video camera and a digital camera.

Learners can use assets from secondary sources, for example images from picture galleries or clip art, video or sound clips from websites, text from websites, magazines or books. However, they do need to understand and adhere to legal constraints on the use of other people's materials. They also need to know how and why it is important to acknowledge sources.

Development

Learners will need to be taught what to test for (functionality, usability) and how to go about it, including how to select test users who are representative of the target audience and how to gather feedback.

Evaluation

Evaluation of the finished product should focus on the extent to which it meets the specified requirements and is fit for the audience and purpose.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Creative thinkers	LO.2 generating ideas and explore possibilities for a multimedia product LO.2 asking questions to extend their own thinking LO.2 developing multimedia products by connecting their own and others' ideas and experiences in inventive ways LO.2 trying out alternatives or new solutions and following ideas through
Reflective learners	LO.3 seeking and using feedback from test users to identify opportunities for improvement, dealing positively with praise, setbacks and criticism.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Independent enquirers	LO.1 investigating multimedia used in business
Reflective learners	LO.2 reflecting on the feedback they receive during testing
Self-managers	LO.2 planning their work and organising their time, dealing with contingencies as and when they arise
Effective participators	LO.3 giving feedback to others on their multimedia products.

Functional skills — Level 1

Skill	When learners are …
ICT — Use ICT systems	
Interact with and use ICT systems independently to meet needs	LO.1 finding out how multimedia is used in business LO.2 developing their multimedia products
Use ICT to plan work and evaluate their use of ICT systems	
Manage information storage	
Follow and understand the need for safety and security practices	
ICT — Find and select information	
Select and use a variety of sources of information independently to meet needs	LO.1 finding out how multimedia is used in business LO.2 gathering assets for their multimedia products
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information to suit its meaning and purpose, including: • text and tables • images • numbers • graphs • records	LO.2 developing their multimedia products
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	LO.3 evaluating their multimedia products
Select and use ICT to communicate and exchange information safely, independently, responsibly and effectively	

Skill	When learners are …
Mathematics	
Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine	
Identify and obtain necessary information to tackle the problem	
Select and apply skills in an organised way to find solutions to practical problems for different purposes	
Use appropriate checking procedures at each stage	
Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations	
English	
Speaking and listening – take full part in formal and informal discussions/exchanges	
Reading – read and understand a range of texts	
Writing – write documents to communicate information, ideas and opinions using formats and styles suitable for their purpose and audience.	

Reference material

Fishpool B – *Edexcel Diploma: Information Technology: Level 1 Foundation Diploma* (Pearson, 2008) ISBN 9780435471682

Level 2 units

Unit 1: The Potential of Technology

Principal Learning unit

Level 2

Guided learning hours: 60

Externally assessed

(59 hours' learning time and 1 hour for assessment)

About this unit

Technology is everywhere! We use technology at work, at home, at leisure. It has the potential to change lives.

In this unit you will learn how organisations use information technology to help them achieve their objectives. You will find out about components of technology systems – what they do and how they work – and identify opportunities for organisations to implement or improve a technology system.

Technology is not only transforming the way in which organisations work. It is also having a huge impact on the lives of individuals and on society as a whole. You will explore the transformational effect of technology on people and communities.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Understand the function of key components of technology systems used in organisations

LO.2. Understand reasons why an organisation should implement or improve a technology system

LO.3. Understand the role and contribution of technology to the success of organisations

LO.4. Understand how technology is changing the way organisations, individuals and society operate.

What you need to cover

LO.1 Understand the function of key components of technology systems used in organisations

Technology systems:

- **Banking**: ATMs, home banking
- **Retail**: EPOS, EFTPOS, loyalty cards, self-service checkouts, shelf-edge labelling, fast food purchases
- **E-commerce**: online auction sites, music downloads, internet shopping, payment systems
- **Health**: patient records, monitoring and control, expert diagnostic systems, online appointments
- **Sport and leisure**: performance/attendance monitoring of individuals within a sports centre, buying/reserving cinema tickets
- **Manufacturing**: CAD/CAM, process control
- **Transport and logistics**: GPS, traffic control, route finders, number plate recognition, item tracking
- **Education**: management information systems, computer-aided learning, e-assessment, social book marking tools, RSS readers

Key components:

- **Computers**: PCs, laptops, servers, mainframes
- **Input devices**: touch screen, scanner, biometric scanner (eg barcode, biometric, OCR), magnetic stripe reader, chip and PIN, sensor
- **Output devices**: monitor, printer, plotter, data projector, interactive white boards, speakers, control devices
- **Storage devices**: hard disks, portable media (eg CD, DVD, USB stick, SD card), floppy discs
- **Communication**: networking (wired and wireless), mobile devices, router/modem
- **Software**: operating systems software, application software, communication software, security software

Organisations: public sector, private sector, charities; internet based, brick and click

LO.2	**Understand reasons why an organisation should implement or improve a technology system**	**Reasons:** – to improve performance and cut costs – to respond more quickly – to gain a competitive edge – to respond to changing circumstances, eg new opportunities, changes to legislation, increased volume of business – to access new markets – to increase sales/revenue – to improve internal/external communication
LO.3	**Understand the role and contribution of technology to the success of organisations**	**Role:** – underpins business processes – safeguards business continuity – drives performance improvements – facilitates decision making and informs future planning – communication – keeps business-critical information secure **Contribution**: enhances productivity, confers competitive advantage
LO.4	**Understand how technology is changing the way organisations, individuals and society operate**	**Organisations**: new ways of storing/processing data, new ways of doing business (online, outsourcing, off-shoring), access to more/improved information, new ways of communicating with customers/suppliers/the public, new threats to security **Individuals:** – **Living**: e-citizen, e-safety, accessibility, privacy, data protection, improved access to information and services, social computing, new ways of communicating, entertainment – **Learning**: new ways of learning (location, media), new types of qualifications – **Earning**: new types of jobs, new ways of working (eg remote, flexible), changing skill requirements, potential job losses **Society**: globalisation, digital divide, new types of crime (identity theft, phishing), virtual communities, 'big brother' state (CCTV coverage, biometric controls), freedom of information self-service culture

Learning outcomes and assessment criteria

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Understand the function of key components of technology systems used in organisations	• explain the function of key components of technology systems
LO.2	Understand reasons why an organisation should implement or improve a technology system	• suggest how an organisation could benefit from implementing or improving a technology system
LO.3	Understand the role and contribution of technology to the success of organisations	• explain how technology contributes to the success of organisations
LO.4	Understand how technology is changing the way organisations, individuals and society operate.	• review the impact of technology on organisations, individuals and society.

How you will be assessed

This unit will be externally assessed with one-hour examination.

The unit will be assessed through a one-hour multiple-choice exam with 60 marks available; each response is worth one mark.

Guidance for teaching this unit

Delivery guidance

The purpose of this unit is to draw learners' attention to the role that technology plays in organisations. If possible learners should visit and investigate 'real' organisations, such as a high street store, a medical practice, a fast-food outlet, a leisure centre, a multiplex complex, a video hire shop, a factory or a hotel. Visits need to be well prepared beforehand with time set aside afterwards for follow-up work in the classroom.

Where visits are difficult to arrange case-study material can be used as an alternative, although learners are unlikely to find this approach as motivating or meaningful. A possible compromise is to use a mixture of case-study material and guest speakers from local businesses. Trade magazines such as *Computer Weekly* and *Computing* are an excellent resource for this unit.

Learners should investigate the contribution of technology to the success of a variety of organisations. They should establish what they use technology for and how it helps them achieve their objectives. Learners must become 'technology aware', noting components of technology systems whenever they come across them and finding out what they are for and how they work. They must be able to categorise them as input, output, storage or processing devices. They could use a wiki to pool information and build up a shared knowledge bank.

Technology is constantly evolving and learners need to be able to recognise when an organisation should consider implementing a new technology system or improving an existing one. Having the latest 'piece of kit' is not in itself a reason for investing in new or improved technology systems. Learners need to be clear about the benefits to the organisation the new/improved technology will bring.

This unit could be delivered in conjunction with *Unit 2: Exploring Organisations*. It could also be used to introduce some of the basic concepts of *Unit 5: Technology Systems*. As part of an investigation into a supermarket's customer loyalty scheme, for example, learners could set up a database to store, search and sort customer records.

Learners must also explore the transformational effect of technology on organisations, individuals and society, focusing on the ways in which organisations and individuals use technology to help them achieve their objectives. They should use relevant and up-to-date examples to explore the impact of technology. Whilst the benefits of technology are relatively easy to identify, it is also important for learners to be aware of drawbacks, such as loss of privacy and uneven access.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

Although PLTS are not identified within this unit as an inherent part of the assessment criteria, there are opportunities to develop a range of PLTS through various approaches to teaching and learning. (*Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.)

Skill	When learners are …
Independent enquirers	LO.1, LO.3 and LO.4 researching the use of technology by organisations and individuals and making judgements about the quality and usefulness of the information they collect
Creative thinkers	LO.2 generating ideas for improvement to an existing technology systems or investment in a new system
Reflective learners	LO.4 considering the impact of technology – positive and negative – on individuals and society
Self-managers	LO.1 planning and organising visits to local organisations to find out about their use of technology.

Functional skills — Level 2

Skill	When learners are …
ICT — Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	LO.1 finding out about organisations and their use of technology, using the internet to explore the impact of technology, creating a wiki
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT — Find and select information	
Select and use a variety of sources of information independently for a complex task	LO.1, LO.2, LO.3 and LO.4 using a variety of sources to find out about components of technology systems, the role and contribution of technology to the success of organisations, and the impact of technology on organisations, individuals and society
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: • text and tables • images • numbers • records	
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	

Skill	When learners are …
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	LO.1, LO.2 and LO.3 reading about components of technology systems, the role and contribution of technology to the success of organisations, the impact of technology on organisations, individuals and society
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively.	

Work experience

The aim of this unit is to give learners a broad overview of how organisations and individuals use technology to meet their objectives. Therefore, interaction with a wide range of people and organisations is likely to be more beneficial than a single work experience placement.

However, whilst undertaking work experience in an organisation, learners should be encouraged to explore how it uses technology to achieve its objectives.

Specialist resources

Textbooks

Anderson K, Blundell P, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Student Book*, ISBN 9780435471644

Anderson K, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Assessment and Delivery Resource*, ISBN 9780435471668

Baker C, Mason G and Phillips J – *World of Work DVD and Learning Resource File: Information Technology Level 2*, ISBN 9780435471651

Reference material

Websites

BBC Bitesize revision for GCSE Business Studies	www.bbc.co.uk/schools/gcsebitesize/business
BBC Bitesize revision for GCSE ICT	www.bbc.co.uk/schools/gcsebitesize/ict
Bized	www.bized.co.uk
Computer weekly	www.computerweekly.com

Unit 2: Exploring Organisations

Principal Learning unit

Level 2

Guided learning hours: 60

Internally assessed

About this unit

In this unit you will learn how different organisations are structured, what they aim to achieve and how they exploit technology to meet their objectives.

Nowadays, technology systems are at the heart of every successful organisation. You will find out about the technology that supports business processes.

You will take part in a business simulation game to gain first hand experience of the factors that make a business successful.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Know that organisations have different structures, cultures and roles

LO.2. Understand the purpose of key business processes

LO.3. Understand how and why technology is used to support business processes

LO.4. Understand that a number of factors contribute to the success of a business.

What you need to cover

LO.1	**Know that organisations have different structures, cultures and roles**	**Organisations**: public sector, private sector; brick, click, brick and click; profit, not for profit **Structures**: layers of hierarchy, wide/narrow, centralised/decentralised, matrix **Cultures**: management style, values and beliefs, mission, brand identity **Roles**: director, manager, team leader, administrator, trainee/apprentice
LO.2	**Understand the purpose of key business processes**	**Purpose of key business processes:** – **Customer relationship management**: understand who your customers are and what they want, respond better to customers' needs, identify opportunities, provide a personalised service, increase efficiency – **People management**: recruit and retain suitably qualified and motivated staff – **Supplier management**: meet demand, control quality, increase efficiency and profitability – **Service delivery**: improve operational efficiency, provide business intelligence, facilitate access to/sharing of information
LO.3	**Understand how and why technology is used to support business processes**	**Types of technology used:** – **Customer relationship management**: eg customer databases, customer loyalty systems, web technology – **People management**: eg human resources systems, 360 appraisal, payroll, intranet, e-training**,** web technology – **Supplier management**: eg stock control systems, EDI, online ordering, RFID, order tracking, web technology – **Service delivery**: eg business management systems, electronic document management and imaging systems, work flow, order processing systems, web technology **Reasons for use**: eg improve efficiency, streamline supply chains, cut costs, access new markets, reduce carbon footprint, enhance relationships with customers, enable new products and services
LO.4	**Understand that a number of factors contribute to the success of a business**	**Factors**: realistic objectives, good planning, effective communication, knowledge of the market and the competition, establish what makes the product unique, role allocation **Success**: achievement of objectives

How you will be assessed

This unit will be assessed by your teacher.

You will be assessed on your ability to (1) carry out an investigation of two business organisations and (2) use your experience of playing a business simulation game to identify key factors for a successful business.

You will collect all your evidence together in a portfolio.

Part 1 – Exploring organisations

You will carry out an investigation into two different business organisations, focusing on how they use technology to support key business processes, including customer relationship management, people management, supplier management and service delivery.

a. Organisational structures, cultures and roles (LO.1)

You will produce profiles of the two organisations, describing:

- their organisational structure
- their culture
- the roles of key personnel
- how their culture and the way in which they organise themselves helps them to achieve their objectives.

b. Technology-enabled business processes (LO.2 and LO.3)

Using examples from the organisations you have investigated, you will produce a report describing the purpose of key business processes (customer relationship management, people management, supplier management and service delivery) and explaining how and why technology is used to support them.

Part 2 – Key success factors

a. Business simulation (LO.4)

You will take part in a business simulation game in order to find out what makes a business successful.

b. Business success (LO.4)

You will use your experience of playing the game to devise a set of recommendations for building a successful business.

Marking grid

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Organisational structures, cultures and roles**	The learner has: • provided some information about the structure, culture and roles of two organisations, including some examples. (0–4)	The learner has: • given a partial description of the structure, culture and roles of two organisations, using relevant examples • indicated how these help them achieve their objectives. (5–7)	The learner has: • given a full description of the structure, culture and roles of two organisations, using well-chosen examples • described how these help them achieve their objectives. (8–10)	10
LO.2 and LO.3 **Technology-enabled business processes**	The learner has shown some understanding of: • key business processes • how technology is used to support these processes with some examples. (0–16)	The learner has given a partial explanation of: • the purpose of key business processes • how technology is used to support these processes, illustrated with examples. (17–28)	The learner has given a full explanation of: • the purpose of key business processes • how technology is used to support these processes, illustrated with well-chosen examples. (29–40)	40
LO.4 **Business success**	The learner has made several recommendations for building a successful business, making limited reference to the business simulation game. (0–4)	The learner has presented a set of recommendations for building a successful business, supported by some examples from their experience of the business simulation game. (5–7)	The learner has presented a set of well-reasoned recommendations for building a successful business, drawing on their experiences of the business simulation game. (8–10)	10
			Total marks	(10 + 40 + 10) = 60

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Assessment focus LO.1 — Organisational structures, cultures and roles	
Mark band 1 (0–4 marks)	To be eligible for Mark band 1, the learner must have provided some basic facts about the structure, culture or roles (SCR) of two different organisations. For full marks in this band, the learner must have provided some information about all three aspects for each organisation, including some examples.
Mark band 2 (5–7 marks)	To be eligible for Mark band 2, the learner must have described the structure, culture and roles (SCR) of two different organisations, including some examples. Descriptions may be incomplete, but must give a reasonable overview. For full marks in this band, the learner must have used relevant examples and given an indication of how these help the organisations to meet their objectives.
Mark band 3 (8–10 marks)	To be eligible for Mark band 3, the learner must have produced full descriptions of the structure, culture and roles (SCR) of two different organisations, illustrated with relevant examples. They must have given some consideration of how SCR contribute to the achievement of objectives. For full marks in this band, the learner must have demonstrated a good awareness of how SCR for each organisation contribute to meeting their objectives, using well-chosen examples.

Assessment focus LO.2 and LO.3 — Technology-enabled business processes	
Mark band 1 (0–16 marks)	To be eligible for Mark band 1, the learner must have provided some relevant information about at least two of the key business processes with some information about how technology supports these processes. For full marks in this band, the learner must have shown understanding of each of the four key business processes and how technology supports them, with some examples. *(Up to 8 marks can be awarded for information about key business processes and a further 8 marks for information about how technology supports them.)*
Mark band 2 (17–28 marks)	To be eligible for Mark band 2, the learner must have explained each of the four key business processes, although some explanations may be limited, and given examples of how technology supports them. For full marks in this band, the purpose of each process must be clear and the use of technology must be clearly explained. *(Up to 14 marks can be awarded for explanation of key business processes and a further 14 marks for explanation of how technology supports them.)*
Mark band 3 (29–40 marks)	To be eligible for Mark band 3, the learner must have fully explained each of the key business processes and given examples of how technology supports them. For full marks in this band, the learner must have shown a good understanding of the key processes, used well-chosen examples to illustrate how technology supports each process and used specialist vocabulary correctly. *(Up to 18 marks can be awarded for explanation of key business processes, a further 18 marks for explanation of how technology supports them and up to 4 marks for correct use of specialist vocabulary.)*

Assessment focus LO.4 – Business success	
Mark band 1 (0–4 marks)	To be eligible for Mark band 1, the learner must have identified at least two potential success factors. For full marks in this band, the learner must have identified at least three potential success factors and made limited reference to what they learned from playing the business simulation game.
Mark band 2 (5–7 marks)	To be eligible for Mark band 2, the learner must have identified at least three potential success factors, making reference to their experience of playing the business simulation game. For full marks in this band, the learner must have presented their recommendations, supported by some examples of their experience from playing the business simulation game.
Mark band 3 (8–10 marks)	To be eligible for Mark band 3, the learner must have clearly presented their recommendations, supported by examples of their experience from playing the business simulation game. For full marks in this band, the learner must have demonstrated a sound understanding by underpinning their recommendations with well-reasoned evidence, drawing on their experience of playing the business simulation game.

Approaches to assessment

There are two parts to this unit: (1) exploring organisations and (2) playing a business simulation game in order to extrapolate key success factors. There is no need for them to be tackled in a single assignment.

Exploring organisations

Learners must select two organisations with different structures, cultures and roles to investigate in (a) and use examples from these organisations to illustrate key business processes and how and why technology supports them in (b).

Key success factors

Learners are expected to draw upon their experience of taking part in a business simulation game when making their recommendations.

Guidance for teaching this unit

Delivery guidance

This unit is 60 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 20 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

This unit can be delivered in conjunction with *Unit 1: The Potential of Technology* and *Unit 3: Effective Communication*. It can also be used to introduce some of the concepts taught in *Unit 5: Technology Systems*.

Learners should be introduced to a range of organisations with different organisational structures and cultures. This should include online and more traditional organisations. They should study organisational charts and be encouraged to consider how an organisation's structure and culture helps or hinders achievement of its objectives.

Links to local business organisations should be exploited wherever possible to help learners to understand what processes such as customer relationship management are and why they are important. Learners could use diagrams to illustrate how processes work.

It is important to focus on the technology that underpins key business processes and to consider the measures IT departments implement to keep the technology up and running.

Examples could be drawn from various areas of business and include:

- retail: eg EPOS (automatic ordering, just-in-time stock control), internet sales
- manufacturing: eg CAD/CAM, automated production lines
- sport and leisure: eg data logging equipment, fitness measurement, membership card systems
- local government: eg database/card systems for personal details for housing and welfare benefits, payroll system for council workers, voting systems.

Students should be familiar with business terms and be encouraged to use specialist vocabulary where appropriate. They may find it useful to use a wiki to build up a glossary of business terms.

Business simulation games are an excellent way of introducing enterprise to young people. They present learners with realistic business scenarios and allow them to experience the kinds of dilemmas and decision making that are necessary to build a successful business.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Reflective learners	LO.4 recommending measures for building a successful business, evaluating experiences and learning to inform future progress LO.4 communicating their learning in relevant ways for different audiences
Self-managers	LO.4 participating in a business simulation game, working toward goals, showing initiative, commitment and perseverance LO.4 anticipating, taking and managing risks.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Independent enquirers	LO.1 and LO.2 investigating organisations and finding out how technology is used to support key business processes
Creative thinkers	LO.4 taking part in the business simulation game
Self-managers	LO.4 organising themselves and their time when playing the business simulation game.

Functional skills — Level 2

Skill	When learners are …
ICT — Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	LO.1, LO.2, LO.3, LO.4 carrying out research and presenting findings LO.4 playing the business simulation game (if IT based)
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT — Find and select information	
Select and use a variety of sources of information independently for a complex task	LO.1, LO.2, LO.3 carrying out research
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: • text and tables • images • numbers • records	LO.1, LO.2, LO.3 and LO.4 presenting findings
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	

Skill	When learners are …
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively.	LO.1, LO.2, LO.3 and LO.4 presenting findings

Work experience

The aim of this unit is to give learners a broad overview of key business processes and how technology is used to support them. Work experience will provide them with an ideal opportunity to investigate this.

Specialist resources

Textbooks

Anderson K, Blundell P, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Student Book*, ISBN 9780435471644

Anderson K, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Assessment and Delivery Resource*, ISBN 9780435471668

Baker C, Mason G and Phillips J – *World of Work DVD and Learning Resource File: Information Technology Level 2*, ISBN 9780435471651

Reference material

Websites

BBC Bitesize revision for GCSE Business Studies	www.bbc.co.uk/schools/gcsebitesize/business
Business Gateway Startup	www.bgateway.com
Business IT Guide, e-skills UK	www.businessitguide.com/self-help/home
The Times 100 – A student and teacher business resource centre	www.thetimes100.co.uk/index.php

Unit 3: Effective Communication

Principal Learning unit

Level 2

Guided learning hours: 60

Internally assessed

About this unit

Businesses rely on teams of people working well together to meet their objectives. Working well means communicating effectively and supporting your team mates.

In this unit, you will develop your communication skills using IT to help you get a message across. You will explore how the behaviour and attitude of its members affects a team's performance and develop your ability to work effectively as part of a team.

You will learn about the types of communication media used in business and how to choose the best publication for a purpose. You and your team will demonstrate your skills by developing a set of publications for a specified purpose.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Understand why different types of communication media are used for different purposes

LO.2. Be able to use confident, correct and contextually-appropriate English in a range of business-related communications

LO.3. Understand the impact of different behaviours, attitudes and actions on effective communication and performance between individuals and groups

LO.4. Be able to work in a team to meet agreed objectives

LO.5. Be able to evaluate their own performance as an individual and a member of a team.

What you need to cover

LO.1	**Understand why different types of communication media are used for different purposes**	**Communications media**: means of transmitting and receiving information **Types of communication media**: digital (eg websites, blogs, emails, text messaging), print (eg newspapers, magazines, reports, brochures, posters), spoken (eg telephone, face-to-face, radio, podcast) **Purposes**: to inform, to get a message across, to attract attention, to entertain, to educate, to persuade
LO.2	**Be able to use confident, correct and contextually-appropriate English in a range of business-related communications**	**Correct**: using a range of sentence structures (simple, complex), correctly punctuated (commas, apostrophes, inverted commas), proofread and checked (for accuracy, for meaning) **Contextually appropriate**: for the organisation, for the audience, for the subject matter **Business-related communications**: digital (eg digital posters, web pages, information points); spoken (eg podcasts, telephone calls, presentations), written (eg letters, reports, emails)
LO.3	**Understand the impact of different behaviours, attitudes and actions on effective communication and performance between individuals and groups**	**Behaviours, attitudes and actions**: professional/unprofessional, helpful/obstructive, organised/disorganised, positive/negative; verbal clues, body language; speed and quality of work **Personality types**: eg ideas person, facilitator, producer, peace maker **Effective communication and performance**: objectives achieved, targets and deadlines met
LO.4	**Be able to work in a team to meet agreed objectives**	**Work in a team**: **Agree objectives**: what must be done, for whom, by when **Plan**: allocate roles and responsibilities, agree procedures, draw up a work schedule **Execute**: work cooperatively, communicate effectively, hold meetings, monitor progress, show consideration for others, respond constructively to feedback

LO.5	**Be able to evaluate their own performance as an individual and a member of a team**	**Team performance**: what went well, what went badly, effectiveness of team, personality mix, contribution of individuals, feedback from a reviewer **Own performance**: strengths, weaknesses, areas for improvement, contribution to team, feedback from and to others

How you will be assessed

This unit will be assessed by your teacher.

You will be assessed on your ability to (1) investigate the use of different communication media for different business purposes and (2) work as a member of a team, using IT to communicate a message.

You will collect all your evidence together in a portfolio.

Part 1 – Effective communications

You will investigate how organisations use different communication media to get their message across to others.

a. Communication media (LO.1)

You will explain the main types of communication media (print, screen, spoken) used by business and give examples of their use.

b. Choice of business-related communications (LO.1)

As part of your team challenge you will be expected to produce a number of business-related communications. You will be required to explain your choice of business-related communications.

Part 2 – Working in a team to achieve agreed objectives

You will work in a team to plan and execute a task. The aim will be to communicate a message in a business-related context by making use of appropriate communication media. This will require effective teamwork.

a. Set-up and record keeping (LO.3 and LO.4)

You will begin by forming a team with a good combination of personalities and strengths.

You will work as a team to establish your objectives, allocate roles and responsibilities and create a team plan.

You will keep a diary during the project to record discussions held and decisions made, and will use the plan to track progress.

b. Teamwork (LO.2, LO.3 and LO.4)

Working as a team, you will use your combined skills to help achieve your objectives.

You will contribute to team meetings by sharing ideas, discussing progress and making decisions.

You will demonstrate your ability to communicate appropriately by presenting a collection of effective business-related communications you and your team have produced.

You will be involved in both individual and team activities, making use of feedback from others and acting as a reviewer for other team members.

c. Judging performance (LO.3 and LO.5)

At the end of the project, you will consider how well your team worked together and the impact of behaviours, attitudes and actions on effective communication and performance.

You will evaluate your own strengths and limitations, and look at how your performance contributed to the effectiveness of the project, commenting on feedback given and received.

Marking grid A

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Communication media** **Choice of business-related communication**	The learner has: • provided some information about the three main types of communication media in business contexts and their use • commented on the choice of business-related communications used for the team task. (0–4)	The learner has: • explained the three main types of communication media in business contexts, including examples of their use • explained the choice of business-related communications used for the team task. (5–7)	The learner has: • explained the three main types of communication media in business contexts, including examples of their use and some comments on benefits and limitations. • justified the choice of business-related communications used for the team task. (8–10)	10
LO.2 **Making yourself clear**	The learner has: • produced some appropriate business-related communications and made a useful contribution to the team effort to communicate a message. (0–6)	The learner has: • produced several appropriate business-related communications and made a good contribution to the team effort to communicate a message. (7–11)	The learner has: • produced several effective business-related communications and made a strong contribution to the team effort to communicate a message. (12–16)	16

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3 and LO.4 **Set-up and record keeping**	The learner has: • submitted a team plan • kept a diary throughout the project with a brief record of team discussions (including initial meetings to agree objectives, allocate roles and plan a schedule), decisions made and their individual contribution to teamwork. (0–5)	The learner has: • submitted a team plan with notes to track progress • kept a diary throughout the project with a record of team discussions (including initial meetings to agree objectives, allocate roles and plan a schedule), decisions made and their individual contribution to teamwork. (6–9)	The learner has: • submitted a team plan with detailed notes to track progress • kept a diary throughout the project with a detailed record of team discussions (including initial meetings to agree objectives, allocate roles and plan a schedule), decisions made and their individual contribution to teamwork. (10–12)	12

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3, LO.5 **Judging performance**	The learner has: • made some comments on their own performance and contribution to teamwork • made some comments on the performance of the team, including the impact of behaviour, attitude and/or actions on communication. (0–5)	The learner has: • made evaluative comments on their own performance and contribution to teamwork, including the effectiveness of their communication with other team members and feedback given to others • made some evaluative comments on the performance of the team, including the impact of behaviour, attitude and actions on teamwork and communication • made a suggestion for improvement. (6–9)	The learner has: • evaluated their own performance and contribution to teamwork, including the effectiveness of their communication with other team members and feedback given to and received from others • evaluated the performance of the team, including the impact of behaviour, attitude and actions on teamwork and communication • made some suggestions for improvements. (10–12)	12
			Total marks	(10 + 16 + 12 +12) = 50

Marking grid B

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3 and LO.4 **Teamwork**	The learner has: • communicated reasonably effectively with other team members • given some support and constructive feedback to others • responded sensibly to some feedback received from others • made a reasonable attempt to adapt behaviour and attitude to changing circumstances • made a reasonable contribution to help the team meet its objectives. (0–4)	The learner has: • communicated effectively with other team members • given support and constructive feedback to others • responded positively and constructively to some feedback received from others • adapted behaviour and attitude to changing circumstances • made a good contribution to help the team meet its objectives. (5–7)	The learner has: • communicated very effectively with other team members • given good support and constructive feedback to others • responded positively and constructively to all feedback received from others • adapted behaviour and attitude effectively to changing circumstances • made a sound contribution to help the team meet its objectives. (8–10)	10
			Total marks	(10 + 16 + 12 +12 + 10) = 60

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Marking grid A

Assessment focus LO.1 — Communication media and choice of communications	
Mark band 1 (0–4 marks)	To be eligible for Mark band 1, the learner must have outlined the three main types of communication media (print, screen, voice) and given a business-related example of each. To achieve full marks the learner must have given a typical use in a business context for each example. They must also have commented on the choice of business-related communications used for the team task.
Mark band 2 (5–7 marks)	To be eligible for Mark band 2, the learner must have explained each of the main types of communication media (print, screen, voice), including an example of a typical use in a business context for each. They must also have given at least one reason for the choice of business-related communications used for the team task. To achieve full marks the learner must have explained the choice of business-related communications used for the team task.
Mark band 3 (8–10 marks)	To be eligible for Mark band 3, the learner must have explained each of the main types of communication media (print, screen, voice), including an example of a typical use in a business context for each, plus at least one benefit or limitation. They must also have explained the choice of business-related communications used for the team task. To achieve full marks the learner must have justified the choice of business-related communications used for the team task.

Assessment focus LO.2 — Making yourself clear	
Mark band 1 (0–6 marks)	To be eligible for Mark band 1, the learner must have produced at least one business-related communication and have made a limited contribution to the team effort to communicate a message. To achieve full marks the learner must have produced at least two appropriate business-related communications and made a useful contribution to the team effort.
Mark band 2 (7–11 marks)	To be eligible for Mark band 2, the learner must have produced at least three appropriate business-related communications and made a useful contribution to the team effort to communicate a message. To achieve full marks the business-related communications must be consistent and the learner must have made a good contribution to the team effort.
Mark band 3 (12–16 marks)	To be eligible for Mark band 3, the learner must have produced at least three effective and consistent business-related communications and made a good contribution to the team effort. To achieve full marks the learner must have made a strong contribution to the team effort.

Assessment focus LO.3 and LO.4 — Set-up and record keeping	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have submitted an initial team plan. To achieve full marks the learner must have also made brief notes on the work done by the team at the planning stage and some decisions made during the project.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have submitted an initial team plan and a diary with some notes about the work done by the team at the planning stage and decisions made during the project. To achieve full marks the learner must have commented on their individual contribution to team discussions and have tracked progress against the team plan.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have submitted an initial team plan and a diary with some detailed notes about the work done by the team at the planning stage, decisions made during the project and their individual contribution to team discussions. They must also have tracked progress against the team plan. To achieve full marks the learner must have made detailed notes throughout the project.

Assessment focus LO.3 and LO.5 — Judging performance	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have commented on their own performance and the performance of the team. To achieve full marks the learner must have included at least two relevant comments on their own performance and contribution to teamwork, and at least two relevant comments on the impact of behaviour, attitude and/or actions on team communication.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have made at least two evaluative comments on their own performance and contribution to teamwork, and two relevant comments on the impact of behaviour, attitude and/or actions on communication amongst the team. To achieve full marks the learner must have included evaluative comments on the effectiveness of their communication with other team members and feedback given to others, and made at least two evaluative comments on the impact of behaviour, attitude and actions on teamwork and communication. They must also have included a sensible suggestion for improvement.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have evaluated their own performance, including the effectiveness of their communication with other team members and feedback given to and received from others. They must also have made at least two evaluative comments on the impact of behaviours, attitudes and actions on teamwork and communication and given at least one sensible suggestion for improvement. To achieve full marks the learner must have fully evaluated the effectiveness of communication amongst the team and the impact of behaviours, attitudes and actions, and given at least two sensible suggestions for improvement.

Marking grid B

Assessment focus LO.3 and LO.4 – Teamwork	
Mark band 1 (0–4 marks)	To be eligible for Mark band 1, the learner must have communicated reasonably well with other team members and responded sensibly to feedback from them. For full marks in this band, the learner must have given some constructive feedback and support to other team members and adapted their behaviour and attitude appropriately when required.
Mark band 2 (5–7 marks)	To be eligible for Mark band 2, the learner must have communicated well with other team members, responding positively to feedback, given some constructive feedback and support in return, and adapted their behaviour and attitude appropriately to changing circumstances. For full marks in this band, the learner must have communicated effectively and made a good contribution to the team effort to meet objectives.
Mark band 3 (8–10 marks)	To be eligible for Mark band 3, the learner must have communicated effectively with other team members, responding positively to all feedback, given constructive feedback and support to them, and adapted their behaviour and attitude effectively to changing circumstances. For full marks in this band, the learner must have communicated very effectively and made a sound contribution to the team effort to meet objectives.

Approaches to assessment

Learners must work in teams of three or four to carry out the main task for this unit (Part 2).

Team members must individually investigate different types of communications media and their use in business (Part 1), using this information to inform team discussions, so that the team can decide which business-related communications to produce to communicate their message.

Some of the business-related communications must be produced by individual team members, but at least one must be a joint effort, requiring contributions from all team members, for example a promotional website. All communications – whether produced by individual team members or by the team – should work together as a set.

Centres must supply learners with a detailed brief, specifying purpose, key requirements and target audience for their communications. The brief must have a business-relevant context.

Guidance for teaching this unit

Delivery guidance

This unit is 60 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 20 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

The individual communication skills acquired through this unit will underpin all the units in the programme and need to be established as soon as possible in the course. Written communication should:

- be concise, logical, persuasive, clear
- use a range of sentence structures including complex structures
- be proof-read
- be correctly punctuated including commas, apostrophes and inverted commas.

Evidence will come from each assessment focus. Verbal and non-verbal communication skills should also be developed and practised through presentations, role play and teamwork.

For this unit, learners will need to investigate the growth and use of communication media, such as blogs, websites, mobile telephony and email, identifying examples of good and bad practice. They could investigate which media are most commonly used, and why, in the variety of business contexts given, eg retail, sport and leisure, manufacturing and local government.

They could participate in various teams (eg a team collecting and sharing information from businesses or a team presentation about research for another unit), helping them to understand, practise and develop team skills, including leadership, negotiation and handling conflict. They could role play team meetings and deliberately introduce different or inappropriate behaviours leading to a discussion of the effect this had on the other members of the team and on the performance of the team.

They could evaluate business publications to identify problems likely to arise from inaccurate use of language.

These skills will also be used in the team task scenario, which involves learners working together to communicate a message in a business context, eg to promote a new product, publicise a campaign or raise awareness of a health issue.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Reflective learners	LO.5 critically reviewing the success of the team and evaluate own performance and contribution to teamwork, assessing themselves and others, identifying opportunities and achievements LO.5 inviting feedback and dealing positively with praise, setbacks and criticism LO.5 evaluating experiences and learning to inform future progress
Team workers	LO.4 working in a team to meet agreed objectives, collaborating with others to work towards common goals LO.4 reaching agreements, managing discussions to achieve results LO.4 adapting behaviour to suit different roles and situations LO.4 showing fairness and consideration for others LO.4 providing constructive support and feedback to others
Effective participators	LO.5 suggesting improvements that would benefit others as well as themselves.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Creative thinkers	LO.2 designing publications that communicate effectively
Self-managers	LO.3, LO.4 and LO.5 planning and organising their work and dealing with time pressures and deadlines for the production of their publications.

Functional skills — Level 2

Skill	When learners are …
ICT — Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	LO.2 producing business-related communications
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT — Find and select information	
Select and use a variety of sources of information independently for a complex task	LO.1 investigating different types of communication media.
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: • text and tables • images • numbers • records	LO.2 producing business-related communications
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	

Skill	When learners are …
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	LO.3 and LO.4 communicating with other members of their team
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	LO.3 and LO.4 communicating F2F with other team members
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively.	LO.3 and LO.4 keeping their diary, producing business-related publications.

Specialist resources

Textbooks

Anderson K, Blundell P, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Student Book*, ISBN 9780435471644

Anderson K, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Assessment and Delivery Resource*, ISBN 9780435471668

Baker C, Mason G and Phillips J – *World of Work DVD and Learning Resource File: Information Technology Level 2*, ISBN 9780435471651

Unit 4: Skills for Innovation

Principal Learning unit

Level 2

Guided learning hours: 60

Internally assessed

About this unit

The UK economy needs IT people who understand business. In the world of business, people tend to think in terms of challenges and opportunities, rather than problems.

To rise to the challenge and take advantage of opportunities, IT professionals must be able to investigate a situation, manipulate numbers, produce graphs and analyse information. They need to be good communicators, able to present proposals and persuade others to back them.

In this unit you will develop investigative and presentation skills and demonstrate your competence by presenting a business proposal.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Be able to investigate business challenges and opportunities, using numerical and graphical techniques to analyse and present relevant information

LO.2. Know about legal and other constraints that affect what businesses can do

LO.3. Be able to present successful business proposals and win support.

What you need to cover

LO.1	**Be able to investigate business challenges and opportunities, using numerical and graphical techniques to analyse and present relevant information**	**Business challenges and opportunities**: eg networking an office, setting up a company website, launching a new product or service, upgrading an existing IT systems, changing over to VOIP, implementing remote backup and support, complying with new Disability Discrimination Act (DDA) legislation **Investigate**: talk to users, carry out research (eg products, technologies, manufacturers, suppliers), look at alternatives (eg cabled versus wireless, Blackberry versus PDA), investigate costs (eg set up, ongoing; staffing, training), benefits, risks and mitigation **Numerical and graphical techniques**: eg percentages, ratios, estimation, approximation; charts and graphs **Analyse using spreadsheet models**: eg sustainability, costs, returns, alternatives, business impact
LO.2	**Know about legal and other constraints that affect what businesses can do**	**Legal constraints**: eg data protection, freedom of information, health and safety, copyright, computer misuse, DDA **Other considerations**: eg ethical, environmental, business culture, work/life balance
LO.3	**Be able to present successful business proposals and win support**	**Business proposals**: the challenge or opportunity, alternative costed solutions, legal and other considerations, recommended solution with justification **Present**: formal F2F meeting with stakeholders **Win support**: persuade, negotiate, compromise**,** reach a workable solution

How you will be assessed

This unit will be assessed by your teacher.

You will be assessed on your ability to (1) investigate a business challenge or opportunity (2) develop a detailed business proposal to address the challenge or opportunity.

You will collect all your evidence together in a portfolio.

Part 1 – Investigating a business challenge or opportunity

You will carry out an in-depth investigation of a business challenge or opportunity.

a. Nature and scope of the challenge or opportunity (LO.1)

You will start by finding out more about the challenge or opportunity. Who is involved? What do they want to achieve, by when? How much have they got to spend etc?

b. Investigation (LO.1)

Next, you will carry out a thorough investigation and produce a spreadsheet model to help you explore the options.

c. Legal and other constraints (LO.2)

As part of your investigation, you will find out about legal and other constraints which will need to be taken account of.

Part 2 – Business proposal

You will produce and present a proposal recommending how the challenge or opportunity should be addressed.

a. Proposal (LO.3)

You will put together a costed business proposal to present to stakeholders. It must include:

- an overview of the nature and scope of the challenge or opportunity you have been asked to address
- at least two alternative, costed solutions
- details of relevant legal and other constraints that must be considered
- your recommended option, with justification.

b. Presentation (LO.3)

You will present your proposal to stakeholders at a meeting, using persuasion, negotiation and compromise to get their support for your proposed solution.

Marking grid A

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Nature and scope of the challenge/ opportunity** **Investigation**	The learner has: • explored some aspects of the challenge or opportunity and gained a limited understanding of what is involved • carried out a limited investigation and gathered some relevant information • produced a simple model that generates limited relevant information • considered some alternatives. (0–10)	The learner has: • explored the challenge or opportunity and gained a reasonable understanding of its nature and scope, though some aspects may not have been considered • carried out an investigation, using several appropriate sources to gather some relevant information, though some aspects may not have been considered • produced a model that generates relevant information and takes account of a number of factors • considered some feasible alternatives. (11–17)	The learner has: • fully explored the challenge or opportunity and gained a sound understanding of its nature and scope • carried out an extensive investigation, using a range of appropriate sources to gather relevant information • produced a sophisticated spreadsheet that generates sufficient relevant information • explored several feasible alternatives. (18–24)	24
LO.2 **Legal and other constraints**	The learner has provided some information about some legal and other constraints. (0–5)	The learner has identified some relevant legal and other constraints, provided some information about them and given some indication of their impact. (6–9)	The learner has identified most of the relevant legal and other constraints, provided information about them and explained their impact. (10–12)	12

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3 **Proposal**	The learner has produced an outline proposal that provides some relevant information on which to base a decision. (0–5)	The learner has produced a clear proposal that provides most of the relevant information on which to base a decision. (6–9)	The learner has produced a detailed proposal, in an appropriate format, that provides all the relevant information on which to base a decision. (10–12)	12
			Total marks	(24 + 12 + 12) = 48

Marking grid B

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3 **Presentation**	The learner has: • delivered a reasonably professional presentation • handled some questions knowledgeably • gained some support for their proposed solution. (0–5)	The learner has: • delivered a well-structured, professional presentation • handled most questions knowledgeably • persuaded stakeholder to give their support. (6–9)	The learner has: • convincingly delivered a well-structured, professional presentation • handled questions knowledgeably • persuaded stakeholder to give their full support, negotiating a mutually agreeable way forward. (10–12)	12
			Total marks	(24 + 12 + 12 + 12) = 60

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Marking grid A

Assessment focus LO.1 — Nature and scope of the challenge or opportunity	
Mark band 1 (0–10 marks)	To be eligible for Mark band 1, the learner must have: • explored at least one aspect of the challenge or opportunity • carried out a limited investigation and gathered limited relevant information. To achieve full marks in this band, the learner must have: • explored at least two aspects of the challenge or opportunity • carried out a limited investigation and gathered some relevant information • produced a simple spreadsheet model that generates limited relevant information • considered at least two alternative options. *(Up to 2 marks can be awarded for exploring the challenge or opportunity; 3 marks for investigation; 3 marks for spreadsheet model; and 2 marks for consideration of options.)*
Mark band 2 (11–17 marks)	To be eligible for Mark band 2, the learner must have: • explored the challenge or opportunity in some depth (although some aspects have not been considered) • carried out an investigation using at least two appropriate sources to gather some relevant information • produced a simple spreadsheet model that generates some relevant information • considered at least two alternative options. To achieve full marks in this band, the learner must have: • explored the challenge or opportunity in some depth (although some aspects have not been considered) and gained a good understanding • carried out an investigation using at least two appropriate sources to gather some relevant information • produced a simple spreadsheet model that generates relevant information and takes account of a number of factors (eg installation costs and running costs) • considered at least two alternative feasible options. *(Up to 4 marks can be awarded for exploring the challenge or opportunity; 4 marks for investigation; 5 marks for spreadsheet model; and 4 marks for consideration of options.)*

Assessment focus LO.1 — Nature and scope of the challenge or opportunity	
Mark band 3 (18–24 marks)	To be eligible for Mark band 3, the learner must have: • explored the challenge or opportunity in some depth (although some aspects have not been considered) and gained a good understanding • carried out an investigation using at least three appropriate sources to gather relevant information • produced a more sophisticated spreadsheet model that generates most of the require information • explored at least two alternative feasible options. To be eligible for full marks, the learner must have: • fully explored the challenge or opportunity • carried out an extensive investigation using a range of appropriate sources • produced a sophisticated spreadsheet that models the complexity of the challenge or opportunity and generates sufficient reliable information to inform the decision-making process • explored at least three feasible options. *(Up to 5 marks can be awarded for exploring the challenge or opportunity; 6 marks for investigation; 7 marks for spreadsheet model; and 6 marks for consideration of options.)*

Assessment focus LO.2 — Legal and other constraints	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have provided limited information about at least two relevant constraints, although they may have needed help to identify them. For full marks in this band, the learner must have independently provided some information about at least two relevant constraints.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have independently identified at least two relevant constraints (one legal, one other) and provided some information about them. For full marks in this band, the learner must have given some indication of their relevance to the business challenge or opportunity being investigated.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have identified most of the relevant constraints, provided some information about them and given some indication of their relevance to the business challenge or opportunity being investigated. For full marks in this band, the learner must have fully explained their relevance and taken this into account when making their recommendation.

Assessment focus LO.3 — Proposal	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have produced an outline proposal containing limited relevant information, although leaving many questions unanswered. For full marks in this band, the learner must have provided more of the information needed to make a decision.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have produced a proposal providing most of the information required to make a decision. For full marks in this band, the proposal must be clear.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have produced a more detailed proposal, in an appropriate format, providing all the relevant information necessary to make a decision. For full marks in this band, the proposal must be clear and convincing, drawing together some of the relevant facts and figures from their investigation.

Marking grid B

Assessment focus LO.3 — Presentation	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have pitched for support at a formal meeting with stakeholders, delivering a reasonably professional presentation (though with some essential information omitted). For full marks in this band, the learner must have handled some questions knowledgeably and gained some support for their proposal.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have delivered a well-structured presentation, handling most questions knowledgeably and gaining support for their proposal. For full marks in this band, the learner must have persuaded stakeholders to give their support.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have given a convincing performance, handling questions knowledgeably and persuading stakeholders to give their support. For full marks in this band, the learner must have dealt professionally with stakeholders winning their full support through reasoned argument and negotiation of a mutually agreeable way forward.

Approaches to assessment

Ideally, learners should be given the chance to tackle a 'real world' business challenge or opportunity. However, if this is not feasible a case-study approach can be used, in which case someone from the centre must take on the role of a stakeholder. They need to be briefed to ask questions and force the learner to use persuasion and negotiation in an attempt to win them over.

When assessing the spreadsheet models learners produce, it is important to focus on the logic of the model and the quality of the information it generates. Learners should be given no credit merely for their use of the tools.

Guidance for teaching this unit

Delivery guidance

This unit is 60 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 20 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

At first glance, this unit seems to have more to do with business than IT. However, the skills developed here are essential for people who want a career in the IT industry.

Learners should already have acquired the necessary mathematical skills but, nevertheless, need to practise using them in a business context. They may know how to use spreadsheet tools, but may need to practise devising correct formulae and functions.

Knowing that =A4-A5 subtracts the contents of one cell from another is different from knowing that profit is revenue minus costs. They need to be given lots of examples of spreadsheets models to experiment with before moving on to create some themselves.

It is reasonable to expect learners to be able to investigate legislation for themselves. However, getting to grips with ethical considerations is likely to be more challenging. Formal classroom debates may be a good way of exposing learners to opposing points of view as well as encouraging their own participation.

Learners will almost certainly be skilled at producing presentations but may have little experience of presenting to an audience and will need to learn and practise this.

It is possible to link this unit to *Unit 7: Managing Projects* for assessment purposes, so that learners go on to implement their proposal. Alternatively, it could be linked to *Unit 5: Technology Systems*.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Independent enquirers	LO.1 investigating a business challenge or opportunity, identifying questions to answer and problems to resolve LO.1 planning and carrying out research LO.1 analysing and evaluating information LO.1 supporting conclusions, using reasoned arguments and evidence
Creative thinkers	LO.1 generating ideas and exploring possibilities for a business challenge or opportunity LO.1 asking questions to extend their thinking LO.1 using spreadsheet models to try out alternatives or new solutions
Effective participators	LO.3 presenting a persuasive business proposal LO.3 proposing practical ways forward, breaking these down into manageable steps LO.3 influencing others, negotiating and balancing diverse views to reach workable solutions.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Independent enquirers	LO.2 investigating legislation and other constraints that are applicable
Creative thinkers	LO.1 creating the logic of the spreadsheet model
Self-managers	LO.1, LO.2 and LO.3 producing the proposal to deadlines.

Functional skills — Level 2

Skill	When learners are …
ICT — Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	LO.1 investigating the challenge or opportunity and building the spreadsheet model LO.2 using the internet to find out about legislation LO.3 producing and presenting the proposal
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT — Find and select information	
Select and use a variety of sources of information independently for a complex task	LO.1 investigating the challenge or opportunity and creating the spreadsheet model LO.2 using the internet to find out about legislation
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: • text and tables • images • numbers • records	LO.1 creating the spreadsheet model LO.3 producing the proposal and presentation
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	

Skill	When learners are …
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	LO.1 using numerical techniques to estimate costings and build the spreadsheet model LO.3 producing the proposal and presentation
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	LO.3 presenting the proposal, answering questions and winning support
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	LO.1 investigating the challenge or opportunity and creating the spreadsheet model LO.2 using the internet to find out about legislation
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively.	LO.3 producing the proposal and presentation

Work experience

Ideally, a learner could investigate a business challenge or opportunity in their work experience placement.

Reference material

Textbooks

Anderson K, Blundell P, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Student Book*, ISBN 9780435471644

Anderson K, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Assessment and Delivery Resource*, ISBN 9780435471668

Baker C, Mason G and Phillips J – *World of Work DVD and Learning Resource File: Information Technology Level 2*, ISBN 9780435471651

Website

Biz pep Business Support Software www.bizpeponline.com/index.html

Unit 5: Technology Systems

Principal Learning unit

Level 2

Guided learning hours: 60

Internally assessed

About this unit

Ever wondered how computers 'talk' to each other? In this unit you will get the chance to find out! You will learn about the components of networked systems and how to assemble them to create a simple computer network.

Organisations are becoming increasingly dependent on their IT systems. Any downtime can have a serious impact on an organisation's ability to function. You will find out about the principles of systems availability and recommend procedures on your network to safeguard business continuity.

You will design and develop a database system to meet a set of specified user requirements, using script programming or macros to automate frequently-used procedures.

The key to creating IT solutions that work is to plan and carry out rigorous testing, including getting feedback from others to help identify problems and suggest improvements. You will learn how to use testing and feedback to help create effective systems for other people to use.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Understand the role of key components of networked PC systems

LO.2. Be able to assemble, test and troubleshoot a simple computer network

LO.3. Understand the principles of systems availability

LO.4. Be able to design, develop, test and troubleshoot a simple database system to meet an identified user need

LO.5. Be able to carry out a system review, assessing fitness for purpose and identifying opportunities for improvement.

What you need to cover

LO.1	**Understand the role of key components of networked PC systems**	**Key components**: work station, server, network interface (eg network card, USB wireless adapter), connection infrastructure (eg switch, cabling, wireless base station), network resources (eg printer, network drive), network server/client software (eg web server, ftp server, remote desktop) **Networked PC systems**: peer-to-peer, client-server; wired, wireless
LO.2	**Be able to assemble, test and troubleshoot a simple computer network**	**Simple computer network:** – at least three computers connected together – at least one shared network peripheral – user access to shared data – at least one piece of network server software installed, with the other computers configured to be able to make use of it (installing network client software if required) – basic network security implemented (eg password protection, WEP/WAP for a wireless network) **Testing**: functionality, usability, security **Troubleshoot**: deal with simple user errors (eg forgetting a password), update/configure network server/client software, diagnose and correct connectivity problems
LO.3	**Understand the principles of systems availability**	**Systems availability**: system online and ready for use, down time kept to a minimum, business continuity safeguarded **Procedures**: backup/recovery/archiving, security, appropriate file structures, access control
LO.4	**Be able to design, develop, test and troubleshoot a simple database system to meet an identified user need**	**Database system:** – **structure**: single table with appropriate field names, data types, field lengths, unique identifier, validation; data entry form – **data entry**: data entry form with suitable interface (eg labels, drop down menus, validation, command buttons) – **automation**: use of script programming and/or macros (eg command button on a data entry form, automated search) – **information handling**: enter, edit and delete records; search (single and multiple criteria), sort (alphabetically/ numerically, ascending/descending order, single/multiple field(s)); reports **Testing**: functionality, usability, fitness for purpose **Troubleshoot**: deal with simple user errors (eg removing duplicate entries, data recovery) **User need**: eg to store product information, customer/supplier details, order details

LO.5	**Be able to carry out a system review, assessing fitness for purpose and identifying opportunities for improvement**	**System review**: seek feedback from users**,** assess fitness for purpose, suggest improvements

How you will be assessed

This unit will be assessed by your teacher.

You will be assessed on your ability to (1) assemble a simple computer network and (2) develop a single table database system to meet a specified user need.

You will collect all your evidence together in a portfolio.

Part 1 – Networks

You will assemble and test a simple network consisting of at least three computers and one peripheral device, such as a printer. Users of the network must be able to share data.

a. Network components (LO.1)

You will produce a diagram showing the components you will use for your network and explain their function.

b. Network assembly, testing and troubleshooting (LO.2)

You will assemble and test the network and deal with any problems that occur once it is up and running.

c. Business continuity (LO.3)

You will recommend procedures for safeguarding business continuity, including appropriate file structures, security and backup processes.

d. Review of the network (LO.5)

You will carry out a review of your network, seeking user feedback, assessing its fitness for purpose and identifying opportunities for improvement.

Part 2 – Database development and testing

You will design, develop, test and troubleshoot a database system to meet a set of specified user requirements.

a. Database structure (LO.4)

You will analyse the data to be stored and create a suitable record structure for the database, including appropriate validation. You will also create a form to facilitate data entry.

b. Automation (LO.4)

You will use script programming or macros to automate frequently-used procedures.

c. Information retrieval (LO.4)

You will demonstrate the database in action by sorting and retrieving records and producing sample database reports.

d. Review of the database (LO.5)

You will carry out a review of your database system, seeking user feedback, assessing its fitness for purpose and identifying opportunities for improvement.

Marking grid A

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Network components**	The learner has identified some required components and given a basic explanation of their function. (0–2)	The learner has identified most required components and given a partial explanation of their function. (3–4)	The learner has identified most required components and given a good explanation of their function. (5–6)	6
LO.3 **Business continuity**	The learner has given a brief description of some measures designed to safeguard business continuity. (0–2)	The learner has given a description of several measures designed to safeguard business continuity, including appropriate file structures, security and backup processes. (3–4)	The learner has given a detailed description of a range of measures designed to safeguard business continuity, including appropriate file structures, security and backup processes. (5–6)	6
LO.5 **Review of the network**	The learner has: • produced a basic review of the network • made a sensible suggestion for improvement. (0–2)	The learner has: • produced a realistic review of the network, including some feedback from others • made some sensible suggestions for improvement. (3–4)	The learner has: • produced a thorough review of the network, incorporating feedback from others • made some sensible suggestions for improvement and explained how they will help. (5–6)	6

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.4 **Database structure** **Automation** **Information retrieval**	The learner may have needed some support, but has: • produced a suitable database structure and simple data entry form, making some appropriate use of validation • included at least one automated feature • used simple techniques to retrieve information from the database and produced basic database reports that demonstrate some awareness of audience and purpose. (0–10)	The learner has: • designed a suitable database structure and data entry form, making some appropriate use of validation • included some automated features • used simple techniques to retrieve some relevant information from the database, and produced some appropriate database reports that demonstrate some awareness of audience and purpose. (11–17)	The learner has: • designed an effective database structure and data entry form, making appropriate use of validation • included some automated features that enhance efficiency • used more complex techniques to retrieve relevant information from the database and produced well-presented database reports that demonstrate good awareness of audience and purpose. (18–24)	24
LO.5 **Review of the database**	The learner has: • produced a basic review of the database system • made some suggestions for improvement. (0–2)	The learner has: • produced a review of the database system, including some feedback from others • made some sensible suggestions for improvement. (3–4)	The learner has: • produced a detailed review of the database system, incorporating feedback from others • made sensible suggestions for improvement and explained how they will help. (5–6)	6
			Total marks	(6 + 6 + 6 + 24 + 6) = 48

Marking grid B

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.2 **Network assembly, testing and troubleshooting**	The learner needed support to: • assemble a simple network • carry out testing, to ensure that the network functions as intended • resolve a straight-forward problem. (0–5)	The learner was able to independently: • assemble a simple network • carry out testing, to ensure that the network functions as intended • resolve some straightforward problems. (6–9)	The learner was able to independently: • assemble a simple network • carry out extensive testing to ensure that the network is fully functional and easy to use • resolve some more complex problems. (10–12)	12
			Total marks	(6 + 6 + 6 +24 + 6 + 12) = 60

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Marking grid A

Assessment focus LO.1 — Network components	
Mark band 1 (0–2 marks)	To be eligible for Mark band 1, the learner must have identified at least two of the components required for the network. For full marks in this band, the learner must have shown some understanding of their function.
Mark band 2 (3–4 marks)	To be eligible for Mark band 2, the learner must have identified most of the components required and shown some understanding of their function. For full marks in this band, the learner must have given an explanation of the function of at least two of the components.
Mark band 3 (5–6 marks)	To be eligible for Mark band 3, the learner must have identified most of the components required and provided a good explanation of the function of at least three components. For full marks in this band, the learner must have provided a good explanation of the function of most components.

Assessment focus LO.3 — Business continuity	
Mark band 1 (0–2 marks)	To be eligible for Mark band 1, the learner must have given a brief description of a measure that would help safe guard business continuity. For full marks in this band, learners must give a brief description of at least two measures, such as appropriate file structures, security or backup processes.
Mark band 2 (3–4 marks)	To be eligible for Mark band 2, learners must give a brief description of three measures, including appropriate file structures, security and backup processes. For full marks in this band, the learner must have given a description of at least three measures, including appropriate file structures, security and backup processes.
Mark band 3 (5–6 marks)	To be eligible for Mark band 3, learners must give a description of at least four measures, including appropriate file structures, security and backup processes. For full marks in this band, the learner must have given a detailed description of at least four measures, including appropriate file structures, security and backup processes.

Assessment focus LO.5 — Review of the network	
Mark band 1 (0–2 marks)	To be eligible for Mark band 1, the learner must have produced a basic review of the network and made a sensible suggestion for improvement. For full marks in this band, the suggestion for improvement must be sensible and specific.
Mark band 2 (3–4 marks)	To be eligible for Mark band 2, the learner must have produced a realistic review of the network including feedback from others and made at least two sensible suggestions for improvement. For full marks in this band, the learner must include feedback from others and assess fitness for purpose.
Mark band 3 (5–6 marks)	To be eligible for Mark band 3, the learner must have produced a thorough review of the network, incorporating feedback from others and made at least two sensible suggestions for improvement explaining how they will help. For full marks in this band, the learner must have explained what benefits the suggested improvements will give and give a realistic assessment of fitness for purpose.

Assessment focus LO.4 — Database structure and automation	
Mark band 1 (0–10 marks)	To be eligible for Mark band 1, the learner may have needed support and must have: • produced a suitable database structure • created a simple form to facilitate data entry • used simple searches and/or sorts to retrieve some information from the database • produced basic database reports. To achieve full marks in this band: • the database structure must demonstrate some awareness of audience and purpose; it must be possible to infer that some testing was carried out • the data entry form must include at least one useful automated feature • the learner must have used simple searches and sorts to retrieve some relevant information from the database • the reports must demonstrate some awareness of audience and purpose. *(Up to 2 marks can be awarded for the database structure, 3 marks for the data entry form, 3 marks for information retrieval and 2 marks for reports.)*

Assessment focus LO.4 — Database development and testing	
Mark band 2 (11–17 marks)	To be eligible for Mark band 2, the learner must have: • designed a suitable database structure, selecting sensible field names and data types and making some use of appropriate validation • produced a data entry form • produced some simple automated procedures using macros or script programming • used simple searches and sorts to retrieve information from the database • produced database reports with appropriate content and titles. To achieve full marks in this band, it must be possible to infer that some effective testing was carried out and the database and reports must demonstrate some awareness of audience and purpose. *(Up to 4 marks can be awarded for the database structure, 3 marks for the data entry form, 3 marks for automated procedures; 4 marks for information retrieval and 3 marks for reports.)*
Mark band 3 (18–24 marks)	To be eligible for Mark band 3, the learner must have: • designed an effective database structure, selecting suitable field names, data types and validation • designed an effective data entry form that is easy to use • produced some automated procedures using macros or script programming which enhance efficiency • retrieved relevant information from the database using more complex searches and sorts • produced database reports that present information effectively. To achieve full marks in this band, it must be possible to infer that effective testing was carried out and the database and reports must demonstrate good awareness of audience and purpose. *(Up to 5 marks can be awarded for the database structure, 5 marks for the data entry form, 5 marks for automated procedures; 5 marks for information retrieval and 4 marks for reports.)*

Assessment focus LO.5 — Review of the database	
Mark band 1 (0–2 marks)	To be eligible for Mark band 1, the learner must have made at least two comments about their database system and suggested at least two improvements. For full marks in this band, the suggestions for improvement must be sensible and specific.
Mark band 2 (3–4 marks)	To be eligible for Mark band 2, the learner must have made some comments about their database system and suggested at least two sensible improvements. For full marks in this band, the learner must include feedback from others and assess fitness for purpose.
Mark band 3 (5–6 marks)	To be eligible for Mark band 3, the learner must have produced a detailed review of their database system, incorporating feedback from test users and suggesting sensible improvements. For full marks in this band, the learner must have explained what benefits the suggested improvements will give and give a realistic assessment of fitness for purpose.

Marking grid B

Assessment focus LO.2 — Network assembly, testing and troubleshooting	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner may have required support to carry out the assembly and testing activities. The testing may be limited. For full marks in this band, the learner must have resolved a straightforward problem, with considerable support if necessary.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have independently carried out the assembly and testing activities. They must have tested the system sufficiently to ensure that it works, although there may still be considerable room for improvement. They will have resolved a straight-forward problem. For full marks in this band, the learner must have made use of feedback from test users and resolved at least two straightforward problems.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have independently undertaken the assembly and testing tasks. They must have carried out extensive testing, identifying and resolving problems that occur (including some more complex ones). For full marks in this band, the learner must have made good use of feedback from test users to ensure that the network is fully functional and easy to use.

Approaches to assessment

There are two parts to this unit: (1) assembling a simple, self-contained network, and (2) creating a flat file database system. There is no need for them to be tackled in a single assignment.

Networks

At Level 2, learners must assemble and test a simple network consisting of at least three computers and one peripheral device. The network should not be connected to the internet.

They do not need to assemble a PC from scratch, but must be able to install a network adapter (eg a PCI Ethernet card or USB wireless adapter) and the necessary drivers, install appropriate cabling or wireless connections (hub or switch), attach peripherals (eg a printer), configure network addresses and set up file and peripheral sharing.

Before starting the 'build' they must produce a simple diagram identifying the components to be used and annotating it to explain their function.

Learners can work in groups to carry out the 'build' activity. However, the assessor must be confident that each learner has fully met the requirements for the mark awarded.

Learners should implement security features appropriate to a small, closed network. For example, by using encryption keys or MAC address matching to prevent unauthorised devices connecting to the network or having an admin password for configuring switches/base stations, and network server software.

In the unlikely event of everything working smoothly first time, problems must be deliberately introduced for the learners to resolve eg wrong default settings or non-functioning connections.

Although it is not absolutely necessary to supply a scenario for the network activity, it may help learners to tackle parts (c) and (d) if they have a real business context in mind.

Learners must review and evaluate the effectiveness of the network. Suggestions for improvements must be realistic and reasoned.

Databases

Learners must be supplied with a detailed set of user requirements, which can be met by creating a single table database system. The requirements should be detailed and complex enough to enable them to gain marks in the higher mark bands.

Guidance for teaching this unit

Delivery guidance

This unit is 60 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 20 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

Assembling a network

Learners will need to know about the key components of networked systems and understand their function.

Ideally a laboratory will be available for the 'build' activity. Appropriate attention must be given to health and safety requirements with respect to static mats, wrist bands, ensuring hardware and cables are positioned correctly, handling and storing of media correctly, disconnecting from the power supply before proceeding, etc.

It is useful to have a box of old hardware components that learners can look at and handle to bring the theory to life. Active learning approaches, such as matching network components to functions listed on cards, will help learners familiarise themselves with the components and their functions. Ideally, a supply of PCs that are no longer required for use in the classroom, but are sufficiently current in their technology to make them a worthwhile 'build' activity, will be available. Care should be taken to cover a range of devices and technologies, not just those used specifically for the build.

Learners will need to understand the importance of rigorous testing, different types of testing and how to implement logical test procedures.

They will need to know how to deal with straightforward problems including network connectivity problems, virus updates and simple user errors. It is likely that faults will arise during their build activities and they should be encouraged to log these and the solutions they come up with. The centre's IT technician could be very helpful in supplying a list of 'typical' faults, both technical and user.

Learners need to understand the importance of business continuity and the methods used to safeguard it. If at all possible, they should be encouraged to ask about this when out on work experience. Learners should understand how hierarchical file/folder structures help to control access to data and know about backup, restore and archiving processes to maintain data integrity. They should be encouraged to find out about the procedures that are followed in the centre.

Creating a database

Learners will need to practise creating database structures, entering and importing data, sorting, querying and producing reports using database software.

Macros are an easy way to take care of simple details such as opening and closing forms and running reports. They can also be used to carry out an action, or a series of actions, when a database first opens. Learners will need to develop their skills in designing and writing simple macros in order to implement them for common or repeated tasks.

Learners need to practice using a simple scripting language such as VBA.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Creative thinkers	LO.4 generating ideas and exploring possibilities
Reflective learners	LO.5 seeking feedback from others to identify opportunities for improvement, dealing positively with praise, setbacks and criticism
Self-managers	LO.2 assembling and testing a simple computer network, resolving problems, working towards goals, showing initiative, commitment and perseverance LO.4 resolving problems, working towards goals, showing initiative, commitment and perseverance.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Independent enquirers	LO.1 investigating network components LO.2 investigating technical problems and finding solutions
Team workers	LO.4 working with a user to produce a set of requirements for setting up a system
Effective participators	LO.4 and LO.5 seeking feedback from the user about the system in order to improve it.

Functional skills — Level 2

Skill	When learners are …
ICT — Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	LO.2 setting up a networked computer system LO.4 developing a database system to store structured records
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT — Find and select information	
Select and use a variety of sources of information independently for a complex task	LO.1 finding out about the purpose of network components LO.4 retrieving information from the database
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: • text and tables • images • numbers • records	LO.1 explaining the purpose of network components LO.3 producing a business continuity plan
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	

Skill	When learners are …
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively.	LO.3 producing a business continuity plan.

Reference material

Textbooks

Anderson K, Blundell P, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Student Book*, ISBN 9780435471644

Anderson K, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Assessment and Delivery Resource*, ISBN 9780435471668

Baker C, Mason G and Phillips J – *World of Work DVD and Learning Resource File: Information Technology Level 2*, ISBN 9780435471651

Unit 6: Multimedia

Principal Learning unit

Level 2

Guided learning hours: 60

Internally assessed

About this unit

'*The average teenager can reputedly absorb twice as much peripheral visual information as today's adult aeroplane pilots … They demand new solutions to suit their attitudes and aptitudes*.' [2]

Multimedia is one of the most creative areas of IT and one with which you are already very familiar. When surfing the web, watching TV or playing a computer game you are using multimedia created by someone else.

In this unit, you will develop the skills you need to produce multimedia products yourself.

You will learn about the importance of up-front design and what to include in design documentation. You will create and prepare different types of digital asset – audio, video, animation, still images, movies and text – and combine them to create effective multimedia products for others to use. You will make use of testing – for functionality, for usability, for accuracy, for impact – and obtain and use feedback from others as an integral part of the development process.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Understand how multimedia is used to meet business-relevant objectives

LO.2. Be able to design, develop and test multimedia products that are fit for audience and purpose

LO.3. Be able to elicit and use feedback from test users to identify opportunities for improvement.

[2] IT Insights: Trends and UK Skills Implications – A joint publication by e-skills UK and Gartner Consulting November 2004

What you need to cover

LO.1	**Understand how multimedia is used to meet business-relevant objectives**	**Multimedia**: combinations of sound, animation, still and moving images **Design features**: content, navigation, mix of digital components, interactivity **Business relevant objectives**: promotion and advertising (eg web pages, digital posters, virtual tours), education and training (eg simulations, 'serious' games, e-learning packages), entertainment and leisure (eg computer games, virtual reality)
LO.2	**Be able to design, develop and test multimedia products that are fit for audience and purpose**	**Multimedia products**: with limited interactivity (eg digital posters, adverts, quizzes, movies), fully interactive (eg information points, digital stories, virtual tours) **Design documentation**: storyboards, scripts, flow charts, annotations, visuals, timelines **Develop**: create, edit, re-purpose, combine assets (sound, video, still images, animation, text) **Test**: for functionality, usability, accessibility, performance **Fit for audience and purpose**: meets specified requirements, includes appropriate features, is suitable for the intended audience, meets technical requirements (eg appropriate file size, format, resolution)
LO.3	**Be able to elicit and use feedback from test users to identify opportunities for improvement**	**Elicit feedback**: questioning, observation **Use of feedback**: to identify errors, suggest further enhancements, comment on performance **Test users**: representatives of the target audience

How you will be assessed

This unit will be assessed by your teacher.

You will be assessed on your ability to (1) evaluate the use of multimedia in business and (2) design, create and evaluate multimedia products that meet specified requirements.

You will collect all your evidence together in a portfolio.

Part 1 – Multimedia in business

You will investigate different uses of multimedia in business.

a. Use of multimedia (LO.1)

In each case, you will explain how and why multimedia is used and evaluate its fitness for purpose. You will analyse the design features used and assess their effectiveness.

Part 2 – Developing multimedia products

Working to a brief, you will develop at least two multimedia products.

a. Design (LO.2)

You will produce design documentation for your multimedia products, supplying enough detail to enable someone else to develop them from your designs.

b. Development and testing (LO.2)

You will gather and prepare digital assets and combine them to produce effective multimedia products, using prototyping and testing as part of the development process.

c. Evaluation (LO.3)

You will gather feedback from test users to help you evaluate your finished products and identify ways in which they could be improved.

Marking grid

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Use of multimedia**	The learner has: • provided some information about some different uses of multimedia in business • commented on some of the design features used. (0–5)	The learner has: • given a partial explanation of some different uses of multimedia in business, considering their fitness for purpose • made evaluative comments about some of the design features used. (6–9)	The learner has: • given a full explanation of some different uses of multimedia in business, assessing their fitness for purpose • evaluated the effectiveness of some of the design features used. (10–12)	12
LO.2 **Design, development and testing**	The learner has: • produced some basic up-front design work • developed multimedia products that meet some of the specified requirements. (0–15)	The learner has: • produced some detailed, up-front, design work • developed functional multimedia products that meet most of the specified requirements and demonstrate some awareness of audience and purpose. (16–26)	The learner has: • produced a complete set of up-front designs that are sufficiently detailed to enable implementation • developed effective multimedia products that meet all of the specified requirements and demonstrate good awareness of audience. (27–36)	36

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3 **Evaluation**	The learner has: • gathered limited feedback from reviewers • made some evaluative comments about the products • given a sensible suggestion for improvement. (0–5)	The learner has: • gathered some feedback from reviewers and commented on it in their evaluation • made some evaluative comments about the products, assessing their fitness for audience and purpose • given some sensible suggestions for improvement. (6–9)	The learner has: • gathered extensive feedback from reviewers and incorporated it into their evaluation • fully evaluated the products, giving a realistic assessment of their fitness for audience and purpose • given some sensible suggestions for improvement and explained why they should be made. (10–12)	12
			Total marks	(12 + 36 + 12) = 60

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Assessment focus LO.1 — Use of multimedia	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have provided some information about two different uses of multimedia in business, outlining how and why it is used. They must have identified at least two design features. For full marks in this band, the learner must have commented on at least two of the design features used.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have explained how and why multimedia is used and considered its fitness for purpose. For full marks in this band, the learner must have made evaluative statements about at least two of the design features used.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have provided a full explanation of how and why multimedia is used and evaluated its fitness for purpose. They must have made evaluative statements about at least two of the design features used. For full marks in this band, the learner must have evaluated the effectiveness of at least two of the design features used, taking into account the audience and purpose.

Assessment focus LO.2 — Developing multimedia products	
Mark band 1 (0–15 marks)	To be eligible for Mark band 1, the learner must have produced: • some up-front design work • the specified multimedia product(s), though there may be some features that do not function as intended. To achieve full marks in this band, the up-front designs must give some indication of what the product(s) will look like. It must be possible to infer from the finished product that some effective testing was carried out. *(Up to 6 marks can be awarded for design work and a further 9 marks for the multimedia product(s).)*

Assessment focus LO.2 — Developing multimedia products	
Mark band 2 (16–26 marks)	To be eligible for Mark band 2, the learner must have produced: • some detailed up-front design documentation, though there may be omissions • functional multimedia product(s). It must be possible to infer that some effective testing was carried out. To achieve full marks in this band, the design documentation must give some indication of what the product(s) will look like and the product(s) must demonstrate some awareness of audience and purpose. *(Up to 11 marks can be awarded for design work and a further 15 marks for the multimedia product(s).)*
Mark band 3 (27–36 marks)	To be eligible for Mark band 3, the learner must have produced: • detailed up-front design documentation • effective multimedia product(s). It must be possible to infer that effective testing was carried out. To achieve full marks in this band, the designs must give a clear indication of what the product(s) will look like and be detailed enough for someone to use. The product(s) must demonstrate good awareness of audience and purpose. *(Up to 17 marks can be awarded for design work and a further 19 marks for the multimedia product(s).)*

Assessment focus LO.3 — Evaluation	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have gathered some feedback from reviewers (albeit limited), made some comments about their product(s) and suggested at least one improvement. For full marks in this band, comments must be evaluative and include some mention of feedback from test users; the suggestion for improvement must be sensible and specific.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have made some evaluative comments about their product(s), commenting on feedback from reviewers. They must have made at least two sensible and specific suggestions for improvement. For full marks in this band, the learner must have provided an assessment of fitness for audience and purpose.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have produced a realistic review of their product(s), incorporating feedback from reviewers and suggesting at least two sensible and specific improvements, explaining why they should be made. For full marks in this band, the evaluation must be clear and incorporate extensive feedback from reviewers and a realistic assessment of fitness for purpose.

Approaches to assessment

Learners should investigate the use of multimedia in business in order to inform the design of the multimedia products they themselves produce.

Centres must supply learners with a detailed project brief, specifying purpose, key requirements and the target audience for their multimedia products. The brief must be demanding enough to allow learners to demonstrate their design skills and technical competence and must require them to produce at least one multimedia product with limited interactivity and one that is fully interactive. The products can be independent of each other or interrelated in some way.

The brief must also give learners the opportunity to work with the full range of assets, eg sound, video, still images, animation and text.

Learners should not be awarded high marks for an overly-simple project performed well.

Guidance for teaching this unit

Delivery guidance

This unit is 60 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 20 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

Uses of multimedia in business

Learners need to become 'multimedia aware', recognising where multimedia is used and analysing the features that make it effective. They should be encouraged to make a note of any good examples of multimedia 'in action' that they come across. They should consider the target audience for each multimedia product they investigate and assess how well it addresses their needs. The wider their research and exposure to multimedia, the broader their understanding will be.

Design

Up-front design work is a key part of the development process. Learners will need to be taught how to produce effective design documentation and how to use it. They must be discouraged from thinking that design doesn't matter or that they can produce the design documentation once the product is complete.

Learners will need to be aware of the impact of file size, format, resolution and compression on performance and bear this in mind when designing their products.

They will need plenty of practise producing and using designs.

Creation

Learners need to develop and practise the technical skills they need to produce multimedia products. They will need to learn how to create and edit different types of assets. Centres must provide a variety of software packages to enable them to do this. Presentation software on its own will not be sufficient. Learners will also need access to and be able to use various peripherals, including sound recording equipment, a digital video camera and a digital camera.

Wherever possible, learners should develop their own assets rather than rely on assets acquired from secondary sources, eg images from picture galleries or clip art, video or sound clips from websites. However, they do need to understand and adhere to legal constraints on the use of other people's materials. They also need to know how and why it is important to acknowledge sources.

Development

Learners should be encouraged to adopt an iterative approach to developing, using testing and feedback throughout the process to refine and improve the final outcome. They need to be taught what to test for (functionality, usability, accessibility and performance) and how to go about it, including how to select test users who are representative of the target audience and how to gather feedback.

Evaluation

Evaluation of the finished product should focus on the extent to which it meets the specified requirements and is fit for audience and purpose. Evaluating other people's multimedia products will help hone learners' skills. Learners will need to be taught how to give feedback as well as to elicit it themselves and what to do with it once they've got it.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Creative thinkers	LO.2 generating ideas and exploring possibilities LO.2 asking questions to extend their own thinking LO.2 developing multimedia products by connecting their own and others' ideas and experiences in inventive ways LO.2 trying out alternatives or new solutions and following ideas through
Reflective learners	LO.3 eliciting and using feedback from test users to identify opportunities for improvement, dealing positively with praise, setbacks and criticism.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Independent enquirers	LO.1 investigating multimedia used in business
Reflective learners	LO.2 reflecting on the feedback they receive during prototyping and testing
Self-managers	LO.2 planning their work and organising their time, dealing with contingencies as and when they arise
Effective participators	LO.3 giving feedback to others on their multimedia products and suggesting improvements.

Functional skills — Level 2

Skill	When learners are …
ICT — Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	LO.2 when developing their multimedia products
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT — Find and select information	
Select and use a variety of sources of information independently for a complex task	LO.2 when gathering assets for their multimedia products
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: • text and tables • images • numbers • records	LO.2 when developing their multimedia products.
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	

Skill	When learners are …
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	

Reference material

Textbooks

Anderson K, Blundell P, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Student Book*, ISBN 9780435471644

Anderson K, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Assessment and Delivery Resource*, ISBN 9780435471668

Baker C, Mason G and Phillips J – *World of Work DVD and Learning Resource File: Information Technology Level 2*, ISBN 9780435471651

Unit 7: Managing Projects

Principal Learning unit

Level 2

Guided learning hours: 60

Internally assessed

About this unit

Horror stories about construction projects not finishing on time and large computer systems that do not work are common news stories. Generally speaking, bad project management causes these situations and results in long overruns and large overspends.

There are lots of well-managed projects that are completed on time and within budget but these do not, unfortunately, make the news.

In this unit you will learn how to plan and manage successful projects.

Learning outcomes

On completion of this unit, a learner should:

LO.1. Understand the key factors that determine the success of IT projects and reasons why some projects fail

LO.2. Be able to produce a project proposal and project plan for a small-scale IT project

LO.3. Be able to manage a successful project

LO.4. Be able to carry out an end-of-project review.

What you need to cover

LO.1	**Understand the key factors that determine the success of IT projects and reasons why some projects fail**	**Successful projects**: objectives achieved, deliverables completed within budget and to time, satisfied customers **Key success factors**: realistic objectives, accurate understanding of requirements, scope clearly specified and adhered to, evaluation criteria specified from the outset, effective planning, good communication, appropriate resources and expertise, realistic risk assessment, effective leadership and team work **Reasons for failure**: poor planning, over-complexity, people problems (eg poor leadership, clash of personalities), poor communication, uncontrolled change, scope creep, failure to recognise risk, resource problems (eg late or non delivery of machinery/supplies, equipment breakdown), impact of external factors (eg legislation, interest rate changes, bad publicity, fluctuations in exchange rate)
LO.2	**Be able to produce a project proposal and develop a project plan for a small-scale IT project**	**Small-scale IT project**: capable of execution by one person **Project proposal**: objective(s), scope, deliverable(s), stakeholders (eg customers, backers, suppliers), resource requirements (eg equipment, expertise, people), evaluation criteria, time scale, risks **Project plan**: start and deadline date**;** tasks and sub-tasks in a logical order, with time allocated to each; milestones and interim review points identified; dependencies, critical path, contingency
LO.3	**Be able to manage a successful project**	**Manage**: track progress against plan, carry out interim reviews, identify risk and take appropriate action, adjust plan if necessary, communicate progress/changes to stakeholders
LO.4	**Be able to carry out an end-of-project review**	**End-of-project review**: extent to which objectives have been met, factors that contributed to the success/failure of the project, lessons learned; seeking the views of others

How you will be assessed

This unit will be assessed by your teacher.

You will be assessed on your ability to (1) identify factors contributing to the success or failure of a project and (2) plan and manage a small-scale project.

You will collect all your evidence together in a portfolio.

Part 1 – Investigating projects

You will investigate two different IT projects: one that was successful and one that was not.

a. Successful project management (LO.1)

You will start by examining a successful IT project. What were its objectives, how were they achieved and what were the main factors that contributed to its success?

Next, you will consider an IT project that failed to meet its objectives. What went wrong and why?

What have you learned from this investigation? What should you do and what should you avoid when carrying out projects of yourself?

Part 2 – Planning and managing a project

a. Project proposal (LO.2)

You will produce a project proposal for a small-scale IT project.

b. Project plan (LO.2)

You will develop an up-front project plan for the project.

c. Project execution (LO.3)

You will carry out the project, using your plan to help you manage it and communicate progress.

d. Project review (LO.4)

You will conduct an end-of-project review, asking others for their views to help inform your conclusions.

Marking grid

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.1 **Successful project management**	The learner has: • provided some information about two IT projects • identified some factors that contributed to their success/failure • produced some 'hints and tips' for managing a project successfully. (0–5)	The learner has: • given a description of the objectives and outcomes of two IT projects • commented on several factors that contributed to their success/failure • produced several useful 'hints and tips' for managing a project successfully. (6–9)	The learner has: • given a detailed description of the objectives and outcomes of two IT projects • evaluated several factors that contributed to their success/failure • presented a set of useful 'hints and tips' for managing a project successfully, explaining how they would help. (10–12)	12
LO.2 **Project proposal** **Project plan**	The learner needed support to produce: • an outline project proposal • an up-front, workable plan. (0–5)	The learner needed limited support to produce: • an outline project proposal, with some aspects well defined • an up-front, workable plan, including milestones and interim reviews. (6–9)	The learner independently researched and produced: • a complete project proposal with all aspects well defined • an up-front, workable plan, including milestones and interim reviews at appropriate points in the project. (10–12)	12

Assessment focus	Mark band 1	Mark band 2	Mark band 3	Maximum marks available
LO.3 **Project execution**	The learner has: • made some use of the plan to track and communicate progress • carried out some interim reviews. (0–10)	The learner has: • made good use of the plan to track and communicate progress • carried out several interim reviews, adjusting the plan when necessary. (11–17)	The learner has: • made ongoing use of the plan to manage the project and communicate progress • carried out interim reviews at appropriate points, adjusting the plan when necessary. (18–24)	24
LO.4 **Project review**	The learner has: • produced a basic review of the extent to which the project objectives have been met and considered some factors that contributed to the outcomes • reached conclusions that are not wholly realistic conclusions. (0–5)	The learner has: • produce a review of the project (with some aspects examined in more detail than others) taking account of feedback from others • reached generally realistic conclusions. (6–9)	The learner has: • produced a detailed review of the project, seeking and reflecting upon the views of others • reached realistic conclusions. (10–12)	12
			Total marks	(12 + 12 + 24 + 12) = 60

Assessment guidance

Using the marking grid

- Each internally-assessed unit has 60 available marks in total.
- In some units the marking grid has been split into two grids – A and B. Marking grid A contains all of the marking criteria for the unit except those that assess a learner's performance in practical activities which are recorded as a witness testimony or observation record. These make up grid B.
- Centres must ensure that learners undertake appropriate assessment tasks to enable them to achieve the requirements of each unit's marking grid(s).
- The basic principle is that this is a 'best fit' grid – the assessor must match the overall standard of work for an assessment focus to a band. It is NOT a hurdle approach, whereby the assessor cannot award marks from the next mark band if one item for an assessment focus from a lower mark band has been omitted, regardless of the quality of the rest of the work for that assessment focus.
- If a learner completes all they are asked to do in a band for an assessment focus, they can be awarded the full marks for that mark band.
- If a learner has clearly done more on one aspect of work for an assessment focus required by a mark band, the assessor should consider whether the learner can be awarded marks from the bottom of the next mark band.
- If a learner has completed less than required in any aspect of work for an assessment focus, or indeed omitted an aspect, then the mark moves down within the mark band.
- Marking is completely separate for each assessment focus, for example a learner can get mark band 3 on one assessment focus, mark band 1 on another etc, then all marks are added together for the unit total. It may be possible, depending on weighting of an assessment focus for a learner to pass a unit even if 0 has been given in marks for one assessment focus in the unit.
- A 0 mark should be used only where a learner provides no valid evidence. Any work that starts to address the requirements of the grid should normally be awarded at least one mark.
- Evidence generated for marking grid A will be moderated. This must be in the form of hard evidence which a moderator can reassess, such as learner produced written documents (for example short question answers, multiple choice question answers, materials from presentations, research notes), videos (dated) of practical activities or artefacts.
- Marks gained from marking grid A will be reported separately from those gained from marking grid B.

Guidance for allocating marks

This section provides further guidance for the assessor on how to confirm marks within the best fit approach. This section should be referred to only once the preliminary judgement has been made by the assessor and is used to guide the assessor as to placement within the mark band.

Assessment focus LO.1 — Successful project management	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have provided some information about two IT projects (one successful, one not successful) and identified at least two factors that contributed to their success or failure. For full marks in this band, the learner must have produced at least two useful 'hints and tips' for managing a project successfully.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have given a description of at least one IT project and some information about another, and commented on at least two factors that contributed to their success or failure. They must have produced at least two useful 'hints and tips' for managing a project successfully. For full marks in this band, the learner must have described both IT projects, commented on at least three success or failure factors and produced at least three useful 'hints and tips'.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have given a detailed description of the two IT projects and evaluated at least two factors that contributed to their success or failure. They must have presented a set of useful 'hints and tips' for managing a project successfully. For full marks in this band, the learner must have evaluated at least three success or failure factors and explained why adherence to the 'hints and tips' will help make the project successful.

Assessment focus LO.2 — Project proposal and plan	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner may have had support to produce an outline project proposal and up-front plan. For full marks in this band, the plan must be workable.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner may have required limited support to produce their project proposal and up-front, workable plan. The plan must indicate when milestones will be reached and interim reviews conducted. For full marks in this band, the learner must have produced a fuller project proposal with some aspects in detail.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have independently produced a complete project proposal and workable, up-front plan. Interim reviews must be indicated on the plan at appropriate points in the project. For full marks in this band, the proposal and plan must be based on sound research and demonstrate a good understanding of key success factors.

Assessment focus LO.3 – Project execution	
Mark band 1 (0–10 marks)	To be eligible for Mark band 1, the learner must have used the plan to track progress (albeit not on a regular basis) and have carried out at least one interim review during the project. To be eligible for full marks in this band, the learner must have made more use of the plan to track and communicate progress, with at least two interim reviews.
Mark band 2 (11–17 marks)	To be eligible for Mark band 2, the learner must have made good use of the plan to track and communicate progress. They must have carried out at least two interim reviews. To be eligible for full marks in this band, the learner must have made good use of the plan throughout the project, conducted reviews at least three points and made good use of the review process to assess progress and identify risks, adjusting the plan when necessary.
Mark band 3 (18–24 marks)	To be eligible for Mark band 3, the learner must have made on-going use of the plan to manage the project and communicate progress to stakeholders. To be eligible for full marks in this band, the plan must present an accurate picture of progress through the project.

Assessment focus LO.4 – Project review	
Mark band 1 (0–5 marks)	To be eligible for Mark band 1, the learner must have considered the extent to which the project objectives have been met and indicated at least one factor that contributed to the outcomes. Some of the conclusions reached may not be wholly accurate. To achieve full marks in this band, the learner must have considered at least two factors that contributed to the outcomes.
Mark band 2 (6–9 marks)	To be eligible for Mark band 2, the learner must have conducted a review of the project, examining some aspects in more detail than others, taking account of the views of others. To achieve full marks in this band, the learner must have reached generally realistic conclusions.
Mark band 3 (10–12 marks)	To be eligible for Mark band 3, the learner must have carried out a detailed review of the project, seeking and reflecting upon the views of others. To achieve full marks in this band, the learner must have reached realistic conclusions.

Approaches to assessment

There are two parts to this unit: (1) investigating two IT projects carried out by others – one that was successful and one that failed – and (2) managing a small-scale IT project. Part (1) is intended to inform the activities carried out in part (2) and should therefore be tackled first.

For the project they will complete, learners will need to be given a set of requirements that are within their capability to complete. They could, for example, be given a multimedia project to plan and manage, enabling them simultaneously to produce the evidence requirements for *Unit 6: Multimedia*.

There is no need for learners to master the intricacies of project management software at this level. The emphasis here is on the use of the plan to manage the project and communicate progress to stakeholders. It is likely that many learners will need varying degrees of help and guidance to produce a realistic proposal and a workable plan – the mark allocation allows for this.

It is important to establish at the outset who the stakeholders are so that learners have a clear sense of who they are communicating with and what their relationship to the project is. Ideally, stakeholders will have a genuine interest in the project outcomes. They must be sufficiently involved to be able to give an informed opinion when the project is reviewed.

The project review can be presented as a written report, but – equally – could be presented at an end-of-project review meeting. In the latter case, a recording of the meeting or a copy of the presentation could be presented as evidence.

Guidance for teaching this unit

Delivery guidance

This unit is 60 guided learning hours (GLH) in length. Centres should allocate this amount of time within the timetable for its delivery and assessment. Edexcel has identified that within this time learners will probably require up to 20 GLH for summative assessment activities. (See sections relating to *Internal assessment* and *Programme design and delivery* in the generic introductory part of the *Specification* document.)

Investigating IT projects

Learners must be given the opportunity to investigate a number of different IT projects – some successful, some not. Magazines such as *Computer Weekly* and *Computing* are a good starting point, although ideally learners will be able to find examples of real projects closer to home – possibly on their work placement.

Project management

Level 2 learners do not have to use project management software. A spreadsheet or table can be used to organise tasks and sub-tasks, assign times and resources to these tasks and enter dependencies. They will need plenty of practice drawing up and working with plans. This is something they can be encouraged to do right from the start of the Diploma – initially working to pre-defined plans and then gradually producing and working to plans of their own.

Guidance for the delivery of Personal, Learning and Thinking Skills (PLTS)

The following table identifies the PLTS that have been included within the assessment criteria of this unit:

Skill	When learners are …
Independent enquirers	LO.1 analysing factors that contribute to the success or failure of projects, exploring issues, events or problems from different perspectives LO.1 analysing and evaluating information, judging its relevance and value LO.1 supporting conclusions, using reasoned arguments and evidence
Reflective learners	LO.4 carrying out project reviews, setting goals with success criteria for their development and work LO.4 reviewing progress and acting on outcomes LO.4 inviting feedback and dealing positively with praise, setbacks and criticism LO.4 evaluating experiences and learning to inform future progress LO.4 assessing themselves and others, identifying opportunities and achievements LO.4 communicating their learning in relevant ways for different audiences
Self-managers	LO.2 planning a project, working towards goals, showing initiative, commitment and perseverance LO.2 organising their time and resources and prioritising actions LO.2 anticipating, taking and managing risks LO.3 managing a project, dealing with competing pressures, including personal and work-related demands LO.3 responding positively to change, seeking advice and support when necessary.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are …
Creative thinkers	LO.2 and LO.3 adjusting their plans in the light of changing circumstances

Functional skills — Level 2

Skill	When learners are …
ICT — Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	LO.2 creating and using their project plans
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT — Find and select information	
Select and use a variety of sources of information independently for a complex task	LO.1 investigating IT projects
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT — Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: • text and tables • images • numbers • records	LO.3 producing their end-of-project review
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	

Skill	When learners are …
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively.	LO.3 producing their end-of project review.

Work experience

There may be opportunities for learners to investigate projects taking place in their work place. They may even be able to attend interim or end-of-project reviews.

Reference material

Textbooks

Anderson K, Blundell P, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Student Book*, ISBN 9780435471644

Anderson K, Fitzmaurice L and McGill R – *Edexcel Diploma: Information Technology: Level 2 Higher Diploma Assessment and Delivery Resource*, ISBN 9780435471668

Baker C, Mason G and Phillips J – *World of Work DVD and Learning Resource File: Information Technology Level 2*, ISBN 9780435471651

Butterwick R – *Project Workout: A Toolkit for Reaping the Rewards from all your Business Projects* (FT Prentice Hall, 2005) ISBN 0273681818

Johnston A K – *A Hacker's Guide to Project Management* (Butterworth Heinemann, 2003) ISBN 0750657464

Website

Spottydog's Project Management Website www.spottydog.u-net.com

List of annexes

Annexe A: Qualification codes

The National Qualifications Framework (NQF) code is known as a Qualification Accreditation Number (QAN). This is the code that features in the DfES Funding Schedules – Sections 96 and 97 and is to be used for all qualification funding purposes. Each unit within a qualification will also have an NQF unit code.

The qualification and unit codes will appear on the learner's final certification documentation.

The QANs for the qualifications in this publication are:

500/2365/2 Edexcel Level 1 Principal Learning in Information Technology

500/2366/4 Edexcel Level 2 Principal Learning in Information Technology.

These Principal Learning qualifications contribute to the following Diploma qualifications at the same level:

500/2822/4 Edexcel Level 1 Foundation Diploma in Information Technology

500/2811/X Edexcel Level 2 Higher Diploma in Information Technology.

These qualification titles will appear on learners' certificates.

Learners need to be made aware of this when they are recruited by the centre and registered with Edexcel. Providing this happens, centres are able to describe the programme of study leading to the award of the qualification in different ways to suit the medium and the target audience.

Other codes

The codes below will be required when making entries for individual units and the overall Principal Learning qualification:

Unit codes	Each unit is assigned a unit code. This unit code is used as an entry code to indicate that a learner wishes to take the assessment for that unit. Centres will need to use the entry codes only when entering learners for their examination or coursework moderation.	Please refer to the Edexcel *Information Manual*, available on the Edexcel website.
Cash-in codes	The cash-in code is used as an entry code to aggregate the learner's unit scores to obtain the overall grade for the qualification. Centres will need to use the cash-in codes only when entering learners for their qualification award.	Please refer to the Edexcel *Information Manual*, available on the Edexcel website.

Annexe B: Personal, Learning and Thinking Skills

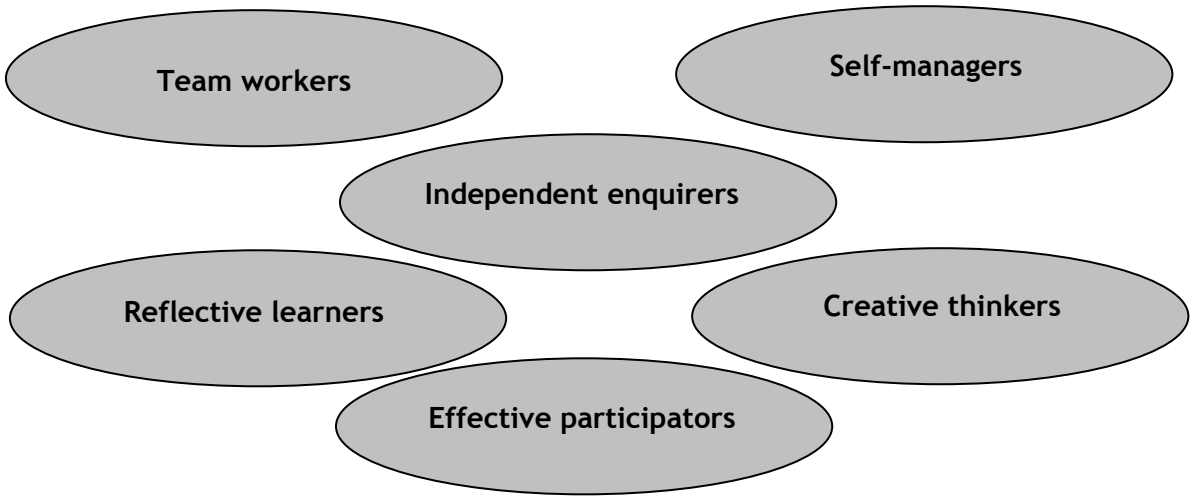
QCA — a framework of PLTS

Qualifications and Curriculum Authority

A FRAMEWORK OF PERSONAL, LEARNING AND THINKING SKILLS 11-19 IN ENGLAND

The framework comprises six groups of skills that, together with the functional skills of English, mathematics and ICT, are essential to success in learning, life and work. In essence the framework captures the essential skills of: managing self; managing relationships with others; and managing own learning, performance and work. It is these skills that will enable young people to enter work and adult life confident and capable.

The titles of the six groups of skills are set out below.



For each group there is a focus statement that sums up the range of skills. This is followed by a set of outcome statements that are indicative of the skills, behaviours and personal qualities associated with each group.

Each group is distinctive and coherent. The groups are also inter-connected. Young people are likely to encounter skills from several groups in any one learning experience. For example an Independent enquirer would set goals for their research with clear success criteria (Reflective learner) and organise and manage their time and resources effectively to achieve these (Self-manager). In order to acquire and develop fundamental concepts such as organising oneself, managing change, taking responsibility and perseverance, learners will need to apply skills from all six groups in a wide range of learning contexts 11-19.

The Skills

Independent enquirers

Focus:

Young people process and evaluate information in their investigations, planning what to do and how to go about it. They take informed and well-reasoned decisions, recognising that others have different beliefs and attitudes.

Young people:

- identify questions to answer and problems to resolve
- plan and carry out research, appreciating the consequences of decisions
- explore issues, events or problems from different perspectives
- analyse and evaluate information, judging its relevance and value
- consider the influence of circumstances, beliefs and feelings on decisions and events
- support conclusions, using reasoned arguments and evidence

Creative thinkers

Focus:

Young people think creatively by generating and exploring ideas, making original connections. They try different ways to tackle a problem, working with others to find imaginative solutions and outcomes that are of value.

Young people:

- generate ideas and explore possibilities
- ask questions to extend their thinking
- connect their own and others' ideas and experiences in inventive ways
- question their own and others' assumptions
- try out alternatives or new solutions and follow ideas through
- adapt ideas as circumstances change

Reflective learners

Focus:

Young people evaluate their strengths and limitations, setting themselves realistic goals with criteria for success. They monitor their own performance and progress, inviting feedback from others and making changes to further their learning.

Young people:

- assess themselves and others, identifying opportunities and achievements
- set goals with success criteria for their development and work
- review progress, acting on the outcomes
- invite feedback and deal positively with praise, setbacks and criticism
- evaluate experiences and learning to inform future progress
- communicate their learning in relevant ways for different audiences

Team workers

Focus:

Young people work confidently with others, adapting to different contexts and taking responsibility for their own part. They listen to and take account of different views. They form collaborative relationships, resolving issues to reach agreed outcomes.

Young people:

- collaborate with others to work towards common goals
- reach agreements, managing discussions to achieve results
- adapt behaviour to suit different roles and situations
- show fairness and consideration to others
- take responsibility, showing confidence in themselves and their contribution
- provide constructive support and feedback to others

Self-managers

Focus:

Young people organise themselves, showing personal responsibility, initiative, creativity and enterprise with a commitment to learning and self-improvement. They actively embrace change, responding positively to new priorities, coping with challenges and looking for opportunities.

Young people:

- seek out challenges or new responsibilities and show flexibility when priorities change
- work towards goals, showing initiative, commitment and perseverance
- organise time and resources, prioritising actions
- anticipate, take and manage risks
- deal with competing pressures, including personal and work-related demands
- respond positively to change, seeking advice and support when needed

Effective participators

Focus:

Young people actively engage with issues that affect them and those around them. They play a full part in the life of their school, college, workplace or wider community by taking responsible action to bring improvements for others as well as themselves.

Young people:

- discuss issues of concern, seeking resolution where needed
- present a persuasive case for action
- propose practical ways forward, breaking these down into manageable steps
- identify improvements that would benefit others as well as themselves
- try to influence others, negotiating and balancing diverse views to reach workable solutions
- act as an advocate for views and beliefs that may differ from their own

(See www.qca.org.uk/qca_16953.aspx)

PLTS Performance Indicator (suggested recording sheet)

Name:	Date:				
	Level of success 1 = low, 5 = high				
Independent enquirers					
Identify questions to answer and problems to resolve	1	2	3	4	5
Plan and carry out research, appreciating the consequences of decisions	1	2	3	4	5
Explore issues, events or problems from different perspectives	1	2	3	4	5
Analyse and evaluate information, judging its relevance and value	1	2	3	4	5
Consider the influence of circumstances, beliefs and feelings on decisions and events	1	2	3	4	5
Support conclusions, using reasoned arguments and evidence	1	2	3	4	5
Creative thinkers					
Generate ideas and explore possibilities	1	2	3	4	5
Ask questions to extend their thinking	1	2	3	4	5
Connect their own and others' ideas and experiences in inventive ways	1	2	3	4	5
Question their own and others' assumptions	1	2	3	4	5
Try out alternatives or new solutions and follow ideas through	1	2	3	4	5
Adapt ideas as circumstances change	1	2	3	4	5
Reflective learners					
Assess themselves and others, identifying opportunities and achievements	1	2	3	4	5
Set goals with success criteria for their development and work	1	2	3	4	5
Review progress, acting on the outcomes	1	2	3	4	5
Invite feedback and deal positively with praise, setbacks and criticism	1	2	3	4	5
Evaluate experiences and learning to inform future progress	1	2	3	4	5
Communicate their learning in relevant ways for different audiences	1	2	3	4	5
Team workers					
Collaborate with others to work towards common goals	1	2	3	4	5
Reach agreements, managing discussions to achieve results	1	2	3	4	5
Adapt behaviour to suit different roles and situations	1	2	3	4	5
Show fairness and consideration to others	1	2	3	4	5
Take responsibility, showing confidence in themselves and their contribution	1	2	3	4	5
Provide constructive support and feedback to others	1	2	3	4	5
Self-managers					
Seek out challenges or new responsibilities and show flexibility when priorities change	1	2	3	4	5
Work towards goals, showing initiative, commitment and perseverance	1	2	3	4	5
Organise time and resources, prioritising actions	1	2	3	4	5
Anticipate, take and manage risks	1	2	3	4	5
Deal with competing pressures, including personal and work-related demands	1	2	3	4	5
Respond positively to change, seeking advice and support when needed	1	2	3	4	5
Effective participators					
Discuss issues of concern, seeking resolution where needed	1	2	3	4	5
Present a persuasive case for action	1	2	3	4	5
Propose practical ways forward, breaking these down into manageable steps	1	2	3	4	5
Identify improvements that would benefit others as well as themselves	1	2	3	4	5
Try to influence others, negotiating and balancing diverse views to reach workable solutions	1	2	3	4	5
Act as an advocate for views and beliefs that may differ from their own	1	2	3	4	5

Note to learner: The circled number represents an indication of your PLTS performance so far.

Note to tutor: Indicate the level of success by circling the appropriate number during your feedback with the learner.

Summary of the PLTS coverage throughout the programme

Level 1

Personal, learning and thinking skill	Unit					
	1	2	3	4	5	6
Independent enquirers	✗	✓	✗	✓	✗	✗
Creative thinkers	✗	✗	✗	✓	✓	✓
Reflective learners		✗	✓			✓
Team workers			✓			
Self-managers			✗	✓	✓	✗
Effective participators			✓			✗
✓ – required component; ✗ – opportunities for development						

Level 2

Personal, learning and thinking skill	Unit						
	1	2	3	4	5	6	7
Independent enquirers	✗	✗		✓	✗	✗	✓
Creative thinkers	✗	✗	✗	✓	✓	✓	✗
Reflective learners	✗	✓	✓		✓	✓	✓
Team workers			✓		✗		
Self-managers	✗	✓	✗	✗	✓	✗	✓
Effective participators			✓	✓	✗	✗	
✓ – required component; ✗ – opportunities for development							

Annexe C: Wider curriculum mapping

Study of the Edexcel Diplomas in Information Technology provides opportunities for the learner to develop an understanding of spiritual, moral, ethical, social and cultural issues as well as an awareness of citizenship, environmental issues, European developments, health and safety considerations and equal opportunities issues.

The Edexcel Diplomas in Information Technology make a positive contribution to wider curricular areas as appropriate.

Spiritual, moral, ethical, social and cultural issues

The specification contributes to an understanding of:

- spiritual issues by providing opportunities to explore the spiritual and religious belief of the individual learner or their immediate and wider communities through a variety of IT tasks
- moral and ethical issues by encouraging learners to appreciate the need to take responsibility for their own actions when making IT products, and to recognise the possible effects of their activities on others; they should also be introduced to the codes of professional practice relevant to the disciplines with which they work
- social and culture issues by providing opportunities to explore the wider cultural and ideological issues which can be addressed though work produced in the IT field; learners should be introduced to issues such as the positive role of IT industries when they act as a vehicle for campaigning on social and moral issues, supporting economic development, and circulating discussions relating to race, gender and cultural differences; they should also think about the possible negative effects in such areas as control and corporate domination, bias, representation of minorities propaganda and cultural imperialism; questions around the effects of IT on society – in relation to advertising and consumerism, or the depiction of violence in computer games – could also be considered, as could questions such as access to source code.

Citizenship issues

Learners undertaking the Edexcel Principal Learning in IT will have the opportunity to develop their understanding of citizenship issues through the study of IT and its role in defining and reinforcing social identities. Many units deal with legal and security issues relating to IT including copyright, viruses and firewalls.

Environmental

Environmental issues can be brought into the programme if learners wish to use them as a starting point for their own work or wish to study the work of practitioners who use them as subject matter in their work. Learners should be made aware of the possibilities of using sustainable resources. This may relate to use of paper-based products or the use of bio-degradable materials for creating packaging IT products.

European developments

There are opportunities within the Edexcel Principal Learning in IT at Levels 1 and 2 to undertake work with a European dimension even though they are taught in UK context. This could be done through investigating the work of European IT practitioners or by producing original work with a European focus.

Health and safety considerations

The Edexcel Principal Learning in IT Level 1 and 2 is practically based and health and safety issues are encountered throughout the qualifications. Learners will develop awareness of the safety of both themselves and others and will explore health and safety issues across the sectors, particularly in those units which involve practical production work. Learners should be made aware of the requirements for handling heavy objects, working with electrical and electronic equipment, and the legalisation governing time spent working with VDUs. There is a requirement for learners to be aware of the necessity for compliance with public safety and local by-laws when working off the centre's premises.

Equal opportunities issues

Equal opportunities issues are implicit throughout the Edexcel Principal Learning in Levels 1 and 2.

Wider curriculum mapping

Principal Learning in Information Technology

Level 1

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Spiritual	✓	✓	✓	✓		✓
Moral and ethical	✓	✓	✓	✓		✓
Social and cultural	✓	✓		✓		✓
Citizenship issues	✓	✓		✓		✓
Environmental issues	✓	✓				✓
European developments						
Health and safety considerations	✓	✓		✓	✓	✓
Equal opportunities issues	✓	✓	✓	✓	✓	✓

Level 2

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
Spiritual	✓	✓	✓		✓	✓	✓
Moral and ethical	✓	✓	✓		✓	✓	✓
Social and cultural	✓	✓	✓		✓	✓	✓
Citizenship issues	✓	✓	✓	✓	✓	✓	✓
Environmental issues	✓	✓	✓	✓	✓	✓	✓
European developments				✓			
Health and safety considerations	✓	✓	✓	✓	✓	✓	
Equal opportunities issues	✓	✓	✓	✓	✓	✓	✓

Annexe D: Glossary of terms

There are some terms that you may come across in the specification, which have a particular meaning within the context of the Diploma. **You are therefore advised to familiarise yourself with the definitions of the terms in this glossary.**

Term	Definition
Additional learning	Units or qualifications that learners choose to include in their Diploma. Additional learning is complementary in character. It consists of further learning and can include national curriculum entitlement areas and/or learning options such as languages, music or science that relate to individual needs, interests and aspirations, provided these do not duplicate learning in Principal Learning and Generic Learning.
Applied learning	Acquiring and applying, knowledge, skills and understanding through *tasks* set in sector *contexts* that have many of the characteristics of real work or are set within the workplace. Most importantly, the *purpose* of the task in which learners apply their knowledge, skills and understanding must be relevant to real work in the sector.
Assessment criteria	Specify the standard a learner is expected to meet to demonstrate that a learning outcome, or set of learning outcomes, has been achieved. Assessment criteria should be sufficiently detailed to support a consistent judgement that a learning outcome has been achieved – there are no minimum or maximum number of assessment criteria that relate to each learning outcome. The criteria should not dictate the method of assessment to be used.
Diploma	A defined set of qualifications that have been combined according to a set of rules. The Diplomas are designed to support progression to further study, training and employment.
Experiential learning	A process that stresses the central role of experience in learning related to the world of work. Learners reflect on their experience, draw out and articulate lessons learnt (generalise), and then apply their learning to new situations or activities.
External assessment	Assessment tasks are set and learners' work is assessed by Edexcel.
Formative assessment	This is concerned with the short-term collection and use of evidence as guidance of learning, mainly in day-to-day classroom practice.
Functional skills	Functional skills are core elements of English, mathematics and ICT, providing the essential knowledge, skills and understanding needed to operate confidently, effectively and independently in life and at work.

Term	Definition
Generic Learning	Generic Learning enables learners to develop and apply the skills and knowledge necessary for learning, employment and personal development. The Generic Learning component of the Diploma is made up of the following constituent parts: • functional skills • Personal, Learning and Thinking Skills • a project • work experience.
Generic skills	Generic skills are relevant to learning, training and working in all lines of learning and all sectors. They include functional skills and Personal, Learning and Thinking Skills.
Internal assessment	Tasks are set and marked against criteria provided by Edexcel and subjected to external moderation. Internal assessment is normally supervised and conducted under controlled conditions.
Level	The level at which a qualification or unit is positioned for accreditation. Levels are defined in terms of complexity, autonomy and range of achievement.
Line of learning	The broad subject areas that each Diploma will cover. There are 17 lines of learning, including: Creative and Media; Information Technology; Society, Health and Development; Engineering; Construction and the Built Environment.
Personal, Learning and Thinking Skills (PLTS)	The framework of skills, which will equip all young people for successful employment and lifelong learning. PLTS require learners to be: • independent enquirers • creative thinkers • reflective learners • team workers • self-managers • effective participators.
Principal Learning	Learning modules and units of assessment that the learner must include in their Diploma. Principal Learning includes a minimum of 50 per cent of applied learning and consists of knowledge, understanding, skills and attitudes that support progress through the line of learning into the sectors concerned. Opportunities to develop and apply generic skills are also integrated into Principal Learning.
Project	A freestanding qualification within the Diploma.

Term	Definition
Specialist learning	Units or qualifications that learners choose to include in their Diploma. Specialist learning allows the learner to take up further, more specialist learning, within their line of learning. It consists of qualifications and units that will support progression across the range of progression pathways within a chosen sector, as identified and recommended by the employers and higher education advisers on the Diploma Development Partnership.
Summative assessment	This serves to inform an overall judgement of achievement.
Transcript	A report of the units and qualifications that make up a learner's programme and achievement. It lists the learner's units and grades for each of the components of their Diploma qualification and also records work experience and Personal, Learning and Thinking Skills.
Work experience	A component of the Diploma, which enables learners to utilise and develop their knowledge and skills in the actual workplace.

Annexe E: Internal Assessment of Principal Learning Units: Controls for Task Setting, Task Taking and Task Marking — for Principal Learning in Construction and the Built Environment, Creative and Media, Engineering, Information Technology and Society, Health and Development

This annexe should be read in association with the latest edition of the Joint Council for Qualifications document 'GCSE, GCE, ELC, Functional Skills, Principal Learning in the Diploma and Project Qualifications – Instructions for conducting coursework', available from the JCQ website, www.jcq.org.uk

Section 1: Introduction

It is a requirement of the *Criteria for accreditation of Diploma qualifications at levels 1, 2 and 3* that:

> 'Internal assessment [of Principal Learning] must normally be supervised and conducted under controlled conditions to ensure reliability and fairness.'

Further guidance from the Qualifications and Curriculum Development Agency has identified three stages of assessment for which control must be specified:

- **Task setting**
- **Task taking** (controls on time, resources, supervision, and collaboration)
- **Task marking**.

Further to the areas specified above, this annexe in collaboration with the individual specifications also sets the parameters for:

- guidance and support;
- submission, revision, re-working;
- the involvement of parents/carers;
- malpractice; and the authentication of learners' work.

This annexe details the controls that normally apply to all Edexcel Principal Learning internally assessed units. However tutors and assessors must also apply any specific controls or additional requirements that may be identified within the *Assessment information for assessors* section in individual units.

There are three levels of control that can apply to each stage.

High control	Where the assessment requirements are tightly prescribed.
Medium control	Where the assessment requirements are specified in terms of parameters that allow consortia some flexibility to suit local circumstances.
Limited control	Where the assessment requirements are specified in terms of broad parameters that allow consortia to determine the details of the assessment.

It is the responsibility of the consortium to ensure that internal controlled assessment for Principal Learning is conducted and marked in accordance with the requirements specified by Edexcel and conducted in line with the *JCQ Instructions for conducting coursework.*

Section 2: Edexcel Controlled Assessment Profile

In Edexcel's internally-assessed Principal Learning units, some aspects are subject to medium control and others have limited control. The table below shows the standard profile for all Edexcel Principal Learning internally-assessed unit specifications. Individual unit specifications will indicate where a divergence has occurred from this profile.

Aspect	Level 1	Level 2	Level 3
Task setting	Limited	Limited	Limited
Time	Limited	Limited	Limited
Resources	Limited	Limited	Limited
Supervision	Medium	Medium	Medium
Collaboration	Limited	Limited	Limited
Marking	Medium	Medium	Medium

Section 3: Assessment controls

3.1 Task setting

Limited control

Edexcel will publish, as part of its tutor support materials, at least one model assignment for each internally assessed unit. It is recommended that these model assignments are used in the assessment of each unit. However in order that these assignments can best meet learner interests and local needs they will include guidance for tutors and assessors to show the ways in which they may be adapted and contextualised. If the tutor decides to either adapt or write their own assignments then each assignment must meet the following conditions:

- each internally assessed unit must be assessed through a single coherent assignment which addresses the overall theme of the unit to emphasise how the different learning outcomes all relate to each other. Each assignment may be broken down into a series of related tasks
- assignments must have an applied work-related context
- across all tasks, assignments must address all learning outcomes and assessment criteria, and must give access to the full range of marks
- the evidence produced must conform to the requirements published in the *How you will be Assessed* section of the relevant unit specification
- in some units the marking grid is divided into parts A and B. All tasks which will be marked against the A grid must generate learner evidence that can be re-assessed at a later stage during internal standardisation activity or external moderation

- where tutors decide to set their own assignments, another person, who understands the requirements of the specification, **must** check that each new assignment is appropriate for the line of learning and the level, and also that a new assignment will allow candidates full access to the marking criteria. This is especially important when a new tutor/assessor is required to produce assignments. Suitable people may include a Domain or Lead Assessor. This review process must be documented and the evidence of the review must be made available for the external moderator if requested
- if the assignment is to be produced outside the teaching institution, for example by a supervisor at the learner's work experience placement, then the tutor or assessor at the teaching institution responsible for that unit, must sign off the assignment for validity before the learner attempts the assignment.

In addition to these requirements, further guidance on writing assignments is provided in this specification, in the section 'Assessment and grading of the principal learning specifications'.

Complexity

If the level of complexity of the evidence required is not already identified within the specification, then an indication can be assumed from the amount of time set within the specification for the production of the assessment evidence, considering the level at which the specification is being taken. The expectations of what a Level 1 learner can accomplish in 10 hours are far different from that which can be expected from a Level 3 learner in the same time period.

Unless it is otherwise specified, learners should be set a task of equivalent complexity, whether they are expected to achieve marks at mark band 1 of the marking grid or mark band 3.

3.2 Task taking (controls on time, resources, supervision, and collaboration)

If not specified within the unit, it is to be assumed that tasks or the whole assignment will normally be attempted at the end of the learning process.

Time – Limited control

Each unit has a time for assessment allocated. While it is not a requirement that this time should be observed to the minute for internal assessments, it should be taken as strong guidance and variance should not normally be by more than plus or minus 10%. Learners given significantly less time may well be disadvantaged in relation to the quality and breadth of work they can produce, while those given significantly more may well be disadvantaged by an excess of time spent on assessment rather than learning.

Resources – Limited control

Unless otherwise stated in the individual unit specification, learners are entitled to have full access to all resources seen fit for purpose by the centre tutor/assessor. Any specific resources (eg equipment, published material) required or prohibited for assessment will be detailed in the individual unit.

Supervision – Medium control

Learners must normally be supervised by the centre tutor/assessor whilst producing evidence for the summative assessment activity, unless otherwise stated in the individual unit specification. Supervision is defined as normal classroom/workshop/studio working conditions, with the tutor/assessor being present in the same room whilst the summative assessment evidence is produced by the learner, but not requiring examination conditions.

Where supervision is relaxed:

- because it is not possible to directly supervise the activity that is required to produce summative assessment evidence, eg researching data, then the tutor/assessor must authenticate the learner work following the process identified in the section headed 'Authentication'; or
- because the most suitable environment for producing the evidence means the tutor/assessor cannot be present, eg work experience, the tutor/assessor must ensure an appropriate person supervises the evidence production. All such evidence must be authenticated (see *Authentication* below) and, where this covers performance evidence, a signed learner observation record must be completed with enough reliable information to allow the tutor to accurately assess the evidence (see *3.4 Task marking* below).

It is not permissible for summative assessment evidence to be produced in the learner's home environment, without the direct supervision of their assessor.

Due to the nature of producing an artefact, its production as part of the summative assessment will often be dictated by the availability of materials, equipment etc, therefore it may well be produced outside of the centre. However, the assessor must be confident that the work is that of the learner. In order to be confident, Edexcel requires one of the following situations to apply:

- the work is carried out under the direct supervision of the teaching centre assessor. This is the most desirable option
- the learner demonstrates to the teaching centre assessor equivalent levels of skill in each of the processes included in the production of the final artefact. Ideally this would be in the course of the regular teaching/learning programme, but exceptionally, if the assessor feels a skill has been assessed at a level beyond expectations, the assessor may require the learner to repeat that skill before authenticating the work.

If the artefact can only be produced remotely, for example during work experience, the assessor must have enough reliable information to allow them to both accurately assess the outcome and have a signed learner observation record from an appropriate person who directly observed the learner producing the artefact. An 'appropriate person' is defined as someone with a supervisory role within the workplace (or equivalent), and who has the required skills. This person must not be a family member, and must record and supply the required information for the assessor.

Collaboration (Group work) – Limited control

Some units may require learners to work as part of a group. In other units, unless it is specifically forbidden, tutors may choose to have learners working collaboratively. When producing assignments which require or allow learners to work in groups, tasks must be written to allow each group member to fully meet the requirements of the assessment criteria.

Learners must not have their assessment opportunities reduced by the poor performance of other group members. Where this becomes apparent the tutor or assessor should intervene, or provide suitable alternative activities which do not greatly add to the learners' workloads.

Group tasks should not rely on the performance of individual members of the group to allow other group members to meet all of the assessment criteria.

It is important that each learner is assessed on their individual contribution to the achievements of the group. Where several individuals contribute to a single piece of work, individual contributions must be clearly shown on the work to enable external moderation to take place. This can be indicated by learners or through the tutor's annotations.

Guidance and support

At the start of the assignment learners will often be required to plan out their programme of work. The tutor/assessors should agree these plans and where appropriate agree milestones where they can monitor learners' responses. Appropriate intervention is to be encouraged to ensure learners have every opportunity of success. However, if the planning process forms part of the assessment criteria, care must be taken to ensure that the plan remains the learner's own work.

Within some unit specifications, the level of assistance given to a learner is a discriminating factor used to decide a learner's positioning within the marking bands. To aid the assessor in selecting the appropriate level of assistance given to the learner a glossary of descriptors is included in the units and should be used for guidance when marking the learners work. In some cases, where a glossary doesn't exist, the following definitions should be used:

- *Assistance* – The learner has to be guided and advised to make progress, and responds to ideas suggested. The tutor/assessor needs to direct significant aspects of the work.
- *Limited assistance* – The learner suggests ideas for themselves, but makes use of guidance and advice from the tutor/assessor to make progress. The tutor/assessor assists in some aspects of the work, but generally does not direct it.
- *Independently* – The learner develops ideas themselves, using the tutor/assessor as an advisor rather than as a director. The tutor/assessor facilitates the work but does not need to direct its progress.

It is expected that all learners should develop as independent learners, but this does not mean that they should not be given any support in order to be able to research, write up and complete their reports. The hallmark of the independent learner, whatever the level, is knowing when and whom to ask for support in helping to carry the work forward.

All learners must be fully and equally briefed at the start of any task or assignment about the requirements of that task, including how they will be marked. They should be given the opportunity to ask any questions in order to clarify the requirements.

Once the assignment is under way, the tutor should respond to questions and requests for advice, but should normally refrain from intervening unasked. Responses can advise the learner on such matters as further sources of information, and can point out where further work is needed, but must always stop short of actually stating what to write.

In some units the amount of support and guidance a learner may receive in the course of carrying out the task or assignment is specified. This occurs, for example, when differentiation between mark bands is achieved in part by the support the learner needs to complete a practical task safely.

Tutors or assessors must always intervene where matters of health and safety are concerned. When this happens, the assessor should make a judgement about the appropriate marks that can be applied to the learner's work in the light of the intervention, and attach to the work a record of the intervention and justification for the marks awarded.

3.3 Feedback, re-working and submission

All Principal Learning awarding bodies are required to follow the instructions for feedback, re-working and submission specified by the JCQ

Candidates are free to **revise and redraft** a piece of coursework without teacher involvement before submitting the final piece. Candidates should be advised to spend an appropriate amount of time on the work commensurate with the marks available.

Teachers may review coursework before it is handed in for final assessment. Provided that advice remains at the general level, enabling the candidate to take the initiative in making amendments, there is no need to record this advice as assistance or to deduct marks. Generally one review should be sufficient to enable candidates to understand the demands of the assessment criteria. Advice may be given in either oral or written form.

Having reviewed the candidate's coursework **it is not acceptable** for teachers to give, either to individual candidates or to groups, detailed advice and suggestions as to how the work may be improved in order to meet the assessment criteria. Examples of unacceptable assistance include:

- detailed indication of errors or omissions
- advice on specific improvements needed to meet the criteria
- the provision of outlines, paragraph or section headings, or writing frames specific to the coursework task(s)
- personal intervention to improve the presentation or content of the coursework.

As indicated above, a clear distinction must be drawn between any interim review of coursework and final assessment for the intended examination series. Once work is submitted for final assessment it may not be revised: in no circumstances are 'fair copies' of marked work allowed. **Adding or removing any material to or from coursework after it has been presented by a candidate for final assessment will constitute malpractice**.

Where coursework is submitted in digital format there may be instances where the construction of the e-coursework does not attract any marks, in which case this construction may be done by the teacher instead of the candidate.

If a candidate requires additional assistance in order to demonstrate aspects of the assessment, the teacher should award a mark which represents the candidate's unaided achievement. The authentication statement should be signed and information given on the Candidate Record Sheet.

Teachers must keep live coursework secure and confidential at all times whilst in their possession. It is not acceptable for teaching staff to share coursework with other candidates.

There may be occasions when a learner needs to retake a task or assignment. This is acceptable at the discretion of the tutor, but the assignment should normally be set in a different context so that the learner is not repeating exactly the same tasks which they have had the chance to practise beforehand. Individual units will have further guidance where appropriate.

Authentication

All candidates must confirm that any work they submit for assessment is their own.

Where learners are required to gather information and resources, tutors or assessors should take the opportunity to discuss authentication and plagiarism at the outset.

Where learner observation records and practical activity logs are required Edexcel will provide exemplar pro formas. Centres may choose to develop their own documentation, but they must record at least the information contained within the exemplar pro formas.

Once the assignment has been completed the assessor may need to interview or test the learner on their understanding of the information and/or the resources that they have identified and used. This may be necessary if, for example:

- the assessor needs to confirm the authenticity of the work
- the unit marking grid carries marks for information and/or resource gathering.

It will be up to the centre assessor to decide on the appropriate format, although the activity should be of a 'closed book' nature.

If the assessor decides to interview the learner, the assessor is required to question the learner regarding their information or resources until the assessor is sufficiently satisfied with the authentication. Whilst the interview is in progress the learner should not have access to the information or resources unless the individual unit specifies otherwise. It can be either a group or individual interview.

If the assessor decides to test the learner, the assessor is required to follow the usual testing format, with learners working in silence, and placed in a manner so that they do not see other learners' responses. The questions are at the discretion of the assessor, as is the length and timing of the test. Learners are not permitted to view the questions prior to the test and should not have access to their work during the test unless the individual unit specifies otherwise.

The documented outcome could be either notes following an interview with one or a group of learners and signed by the assessor, or marked test papers.

Each candidate is required to sign a declaration before submitting their coursework to their subject tutors/assessors for final assessment, to confirm that the work is their own and that any assistance given and/or sources used have been acknowledged. Ensuring that they do so is the responsibility of the candidate's centre.

It is also a requirement that tutors/assessors confirm to the awarding body that all of the work submitted for assessment was completed under the required conditions and that they are satisfied that the work is solely that of the individual candidate concerned. Where assessment is supervised by someone other than the tutor, additional confirmation is required from the person who has supervised the assessment.

All tutors/assessors who have assessed the work of any candidate entered for each component must sign the declaration of authentication.

3.4 Task marking (standardisation and marking) — Medium control

Marking

Edexcel requires all consortium assessors to use only Edexcel authorized documentation in the assessment of its Principal Learning internal assessed units. All Edexcel Principal Learning internal assessed unit specifications have mark descriptors, and these must be used when assessing learner work. Consortium assessors must not try to re-interpret the mark descriptors, or use any other unauthorised publication which aims to do so.

If written evidence and artefacts are completed under the supervision of someone else (see *Supervision* above), this person may comment upon what is produced, but only the tutor can allocate marks.

Where performance evidence is observed by someone other than the tutor, this person must record their comments on the learner observation record. It is then the responsibility of the tutor to judge this evidence and allocate marks.

Standardisation

All Principal Learning awarding bodies are required to follow the instructions for standardisation specified by the JCQ.

Centres should use reference and archive materials (such as exemplar material provided by the awarding body or, where available, work in the centre from the previous year) to help set the standard of marking within the centre.

Prior to marking, a trial marking exercise should be undertaken. Teachers mark the same relatively small sample of work to allow for the comparison of marking standards. The exercise can take place at appropriate stages during the course and has three beneficial effects: it helps to bring about greater comparability in the marking standards; it may identify at an early stage any teachers whose standards are out of line with that of their colleagues; and it alleviates a heavy marking load at the end of the course.

Where the work for a unit has been marked by more than one teacher in a consortium, standardisation of marking should normally be carried out according to one of the following procedures:

Either a sample of work which has been marked by each teacher is re-marked by the teacher who is in charge of internal standardisation – normally the Domain Assessor;

Or all the teachers responsible for marking a component exchange some marked work (preferably at a meeting led by the Domain Assessor) and compare their marking standards.

Where standards are found to be inconsistent, the discrepant teacher(s) should make adjustments to their marks or re-consider the marks of all candidates for whom they were responsible. The new marks should be checked by the teacher in charge of internal standardisation.

Following completion of the marking and of internal standardisation, the coursework must be retained within the consortium and not returned to the candidates.

Consortia should retain evidence that internal standardisation has been carried out.

Annexe F: Learning outcomes and assessment criteria for each unit

The following sections state the learning outcomes and assessment criteria for each unit that are presented on the National Database of Accredited Qualifications, NDAQ. Each section outlines the intermediary stage in generating the marking grid from the learning outcomes via assessment criteria.

Unit title: Level 1 Unit 1 Technology in Organisations

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Know the key components of technology systems used in business	• identify and describe the key components of technology systems used in business
LO.2	Know why an organisation should implement or improve a technology system.	• identify the benefits of implementing or improving a technology system.

Unit title: Level 1 Unit 2 The Impact of Technology

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Know how and why organisations use technology	• describe how and why technology is used by selected organisations including how it benefits them, planning and carrying out research [IE2]
LO.2	Know about the impact of technology on individuals and society.	• give examples to illustrate how individuals use technology to live, learn, work and socialise, identifying questions to answer [IE1] • illustrate the impact of technology on society, giving examples of globalisation, the digital divide and virtual communities, exploring issues from different perspectives [IE3].

PLTS: This summary references where applicable, in the square brackets, the elements of the Personal, Learning and Thinking Skills which are embedded in the assessment of this unit. By achieving the criteria, learners will have demonstrated effective application of the referenced elements of the skills. *Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.

Key	IE – independent enquirers CT – creative thinkers RL – reflective learners TW – team workers SM – self-managers EP – effective participators

Unit title: Level 1 Unit 3 Working with People

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Know how and why different types of communication media are used for different business purposes	• identify different types of communication media, and how and why they are used for different purposes
LO.2	Be able to use clear, appropriate English and demonstrate numeracy skills in a range of simple business-related communications	• produce a set of business-related documents, demonstrating English and numeracy skills in electronic, print and voice media
LO.3	Know how behaviour, personal styles and actions affect communication and achievement of objectives	• identify how different behaviours and personal styles can affect team work [EP 4]
LO.4	Be able to work in a team to meet agreed objectives, demonstrating active listening skills and effective, confident speaking skills	• work in a team to meet agreed objectives, collaborating with others to work towards common goals [TW1], reaching agreements, managing discussions to achieve results [TW2], adapting behaviour to suit different roles and situations [TW3], showing fairness and consideration for others [TW4] • provide constructive support and feedback to others [TW6] • demonstrate active listening skills and effective, confident speaking skills reflecting on their performance as a member of a team, taking responsibility for their own contribution [TW5]
LO.5	Be able to reflect on the workings of teams and the different roles individuals play within teams, demonstrating self-awareness.	• demonstrate self-awareness, evaluating experiences and learning to inform future progress [RL5].

PLTS: This summary references where applicable, in the square brackets, the elements of the Personal, Learning and Thinking Skills which are embedded in the assessment of this unit. By achieving the criteria, learners will have demonstrated effective application of the referenced elements of the skills. *Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.

Key	IE – independent enquirers CT – creative thinkers RL – reflective learners TW – team workers SM – self-managers EP – effective participators

Unit title: Level 1 Unit 4 Network Systems

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Know how a PC is connected to a network	• identify the components needed to connect a PC to an existing network
LO.2	Be able to connect a PC to an existing network and resolve simple problems.	• successfully connect to and use a networked technology system, applying problem-solving techniques [IE1] and resolving simple problems, trying out alternatives or new solutions and following ideas through [CT5], seeking advice and support when needed [SM6].

PLTS: This summary references where applicable, in the square brackets, the elements of the Personal, Learning and Thinking Skills which are embedded in the assessment of this unit. By achieving the criteria, learners will have demonstrated effective application of the referenced elements of the skills. *Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.

Key	IE – independent enquirers CT – creative thinkers RL – reflective learners TW – team workers SM – self-managers EP – effective participators

Unit title: Level 1 Unit 5 Database Systems

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Be able to create a simple database system	• generate ideas and explore possibilities [CT1] for a simple database system, resolving problems, working towards goals, showing initiative, commitment and perseverance [SM2]
LO.2	Be able to use database tools to retrieve and present information.	• retrieve and present information from a database.

PLTS: This summary references where applicable, in the square brackets, the elements of the Personal, Learning and Thinking Skills which are embedded in the assessment of this unit. By achieving the criteria, learners will have demonstrated effective application of the referenced elements of the skills. *Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.

Key	IE – independent enquirers CT – creative thinkers RL – reflective learners TW – team workers SM – self-managers EP – effective participators

Unit title: Level 1 Unit 6 Multimedia

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Know how multimedia is used in business	• describe how businesses use multimedia to help them meet their objectives
LO.2	Be able to design, develop and test simple multimedia products	• generate ideas and explore possibilities [CT1] for a multimedia product, by asking questions to extend own thinking [CT2] • develop multimedia products by connecting own and others' ideas and experiences in inventive ways [CT3], trying out alternatives or new solutions and following ideas through [CT5]
LO.3	Be able to seek feedback from test users to identify opportunities for improvement.	• seek and use feedback from test users to identify opportunities for improvement, dealing positively with praise, setbacks and criticism [RL4].

PLTS: This summary references where applicable, in the square brackets, the elements of the Personal, Learning and Thinking Skills which are embedded in the assessment of this unit. By achieving the criteria, learners will have demonstrated effective application of the referenced elements of the skills. *Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.

Key	IE – independent enquirers CT – creative thinkers RL – reflective learners TW – team workers SM – self-managers EP – effective participators

Unit title: Level 2 Unit 1 The Potential of Technology

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Understand the function of key components of technology systems used in organisations	• explain the function of key components of technology systems
LO.2	Understand reasons why an organisation should implement or improve a technology system	• suggest how an organisation could benefit from implementing or improving a technology system
LO.3	Understand the role and contribution of technology to the success of organisations	• explain how technology contributes to the success of organisations
LO.4	Understand how technology is changing the way organisations, individuals and society operate.	• review the impact of technology on organisations, individuals and society.

Unit title: Level 2 Unit 2 Exploring Organisations

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Know that organisations have different structures, cultures and roles	• describe different types of organisational structure, culture and role
LO.2	Understand the purpose of key business processes	• explain the purpose of key business processes, including customer relationship management, people management, supplier management and service delivery
LO.3	Understand how and why technology is used to support business processes	• explain how and why technology is used to support business processes
LO.4	Understand that a number of factors contribute to the success of a business	• participate in a business simulation game, working toward goals, showing initiative, commitment and perseverance [SM2], anticipating, taking and managing risks [SM4] • recommend measures for building a successful business, evaluating experiences and learning to inform future progress [RL5], and communicating their learning in relevant ways for different audiences [RL6].

PLTS: This summary references where applicable, in the square brackets, the elements of the Personal, Learning and Thinking Skills which are embedded in the assessment of this unit. By achieving the criteria, learners will have demonstrated effective application of the referenced elements of the skills. *Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.

Key	IE – independent enquirers CT – creative thinkers RL – reflective learners TW – team workers SM – self-managers EP – effective participators

Unit title: Level 2 Unit 3 Effective Communication

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Understand why different types of communication media are used for different purposes	• assess different types of communication media, giving examples and typical uses • choose appropriate types of communication media for specified purposes
LO.2	Be able to use confident, correct and contextually-appropriate English in a range of business-related communications	• produce effective business-related communications, using correct and contextually-appropriate English
LO.3	Understand the impact of different behaviours, attitudes and actions on effective communication and performance between individuals and groups	• explain the impact of different behaviours, attitudes and actions on effective communication and performance between individuals and groups
LO.4	Be able to work in a team to meet agreed objectives	• work in a team to meet agreed objectives, collaborating with others to work towards common goals [TW1], reaching agreements, managing discussions to achieve results [TW2], adapting behaviour to suit different roles and situations [TW3], showing fairness and consideration for others [TW4] • provide constructive support and feedback to others [TW6]
LO.5	Be able to evaluate their own performance as an individual and a member of a team	• critically review the success of the team and evaluate own performance and contribution to teamwork, assessing themselves and others, identifying opportunities and achievements [RL1], inviting feedback and dealing positively with praise, setbacks and criticism [RL4], evaluating experiences and learning to inform future progress [RL5] • suggest improvements that would benefit others as well as themselves [EP4].

PLTS: This summary references where applicable, in the square brackets, the elements of the Personal, Learning and Thinking Skills which are embedded in the assessment of this unit. By achieving the criteria, learners will have demonstrated effective application of the referenced elements of the skills. *Annexe B* of this document lists the Personal, Learning and Thinking Skills and their elements.

Key	IE – independent enquirers
	CT – creative thinkers
	RL – reflective learners
	TW – team workers
	SM – self-managers
	EP – effective participators

Unit title: Level 2 Unit 4 Skills for Innovation

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Be able to investigate business challenges and opportunities, using numerical and graphical techniques to analyse and present relevant information	• generate ideas and explore possibilities for a business challenge or opportunity [CT1], asking questions to extend their thinking [CT2] • use spreadsheet models to try out alternatives or new solutions [CT5] • investigate a business challenge or opportunity, identifying questions to answer and problems to resolve [IE1], planning and carrying out research [IE2], analysing and evaluating information [IE4]
LO.2	Know about legal and other constraints that affect what businesses can do	• advise on legal and other constraints that affect what businesses can or should do
LO.3	Be able to present successful business proposals and win support	• present a persuasive business proposal [EP2], supporting conclusions, using reasoned arguments and evidence [IE6] and proposing practical ways forward, breaking these down into manageable steps [EP3] • influence others, negotiating and balancing diverse views to reach workable solutions [EP5].

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Key	IE – independent enquirers CT – creative thinkers RL – reflective learners TW – team workers SM – self-managers EP – effective participators

Unit title: Level 2 Unit 5 Technology Systems

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Understand the role of key components of networked PC systems	• explain the role of key components of networked PC systems
LO.2	Be able to assemble, test and troubleshoot a simple computer network	• assemble and test a simple computer network, resolving problems, working towards goals, showing initiative, commitment and perseverance [SM2]
LO.3	Understand the principles of systems availability	• recommend procedures to safe guard business continuity
LO.4	Be able to design, develop, test and troubleshoot a simple database system to meet an identified user need	• generate ideas and explore possibilities [CT1] for a simple database system for others to use, resolving problems, working towards goals, showing initiative, commitment and perseverance [SM2]
LO.5	Be able to carry out a system review, assessing fitness for purpose and identifying opportunities for improvement.	• seek feedback from others to identify opportunities for improvement, dealing positively with praise, setbacks and criticism [RL4].

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Unit title: Level 2 Unit 6 Multimedia

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Understand how multimedia is used to meet business-relevant objectives	• explain how businesses use multimedia to help them meet their objectives
LO.2	Be able to design, develop and test multimedia products that are fit for audience and purpose	• generate ideas and explore possibilities [CT1] for a multimedia product, by asking questions to extend their own thinking [CT2] • develop multimedia products by connecting own and others' ideas and experiences in inventive ways [CT3], trying out alternatives or new solutions and following ideas through [CT5]
LO.3	Be able to elicit and use feedback from test users to identify opportunities for improvement.	• elicit and use feedback from test users to identify opportunities for improvement, dealing positively with praise, setbacks and criticism [RL4] from test users.

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Unit title: Level 2 Unit 7 Managing Projects

Learning outcome number	Learning outcome The learner should:	Assessment criteria The learner can:
LO.1	Understand the key factors that determine the success of IT projects and reasons why some projects fail	• analyse factors that contribute to the success or failure of projects, exploring issues, events or problems from different perspectives [IE3], analysing and evaluating information, judging its relevance and value [IE4] and supporting conclusions, using reasoned arguments and evidence [IE6]
LO.2	Be able to produce a project proposal and develop a project plan for a small-scale IT project	• produce a project proposal • plan a project, working towards goals, showing initiative, commitment and perseverance [SM2], organising time and resources and prioritising actions [SM3], anticipating, taking and managing risks [SM4]
LO.3	Be able to manage a successful project	• manage a project, dealing with competing pressures, including personal and work-related demands [SM5], responding positively to change, seeking advice and support when necessary [SM6]
LO.4	Be able to carry out an end-of-project review	• carry out project reviews, setting goals with success criteria for their development and work [RL2], reviewing progress and acting on outcomes [RL3], inviting feedback and dealing positively with praise, setbacks and criticism [RL4], evaluating experiences and learning to inform future progress [RL5], assessing themselves and others, identifying opportunities and achievements [RL1], communicating their learning in relevant ways for different audiences [RL6].

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