



Level Two Qualifications

Level Two: Communication and Presentation
 Handling Data and Information
 Systems and Control
 Communication Technology

CONTENTS

1	INTRODUCTION	4
1.1	RATIONALE.....	4
1.2	COMPULSORY AND OPTIONAL UNITS	5
1.3	NOTIONAL LEARNING TIME	7
2	PURPOSE AND SCOPE.....	8
2.1	OVERVIEW	8
2.2	SPIRITUAL, MORAL, ETHICAL, SOCIAL AND CULTURAL ISSUES.....	8
2.3	E-SAFETY	8
2.4	HEATH, SAFETY AND ENVIRONMENTAL ISSUES.....	8
3	OUTLINE OF QUALIFICATIONS.....	10
3.1	UNITS	10
3.2	CODE OF PRACTICE	10
4	STRUCTURE AND ASSESSMENT OF EACH QUALIFICATION.....	11
4.1	CENTRE REGISTRATION.....	11
4.2	ENTRY REQUIREMENTS	11
4.3	TYPES OF EVIDENCE	12
4.4	CANDIDATE’S EVIDENCE LOG.....	12
4.5	SCHEME OF ASSESSMENT	13
4.6	TEACHER/TUTOR ASSESSMENT CRITERIA.....	13
4.7	APPROVED ASSESSOR VALIDATION	13
4.8	AWARDING BODY VALIDATION.....	14
4.9	INTERNAL ASSESSMENT	14
4.10	VERIFICATION OF CANDIDATES’ WORK	14
4.11	PROGRESSION.....	14
4.12	APPROVED ASSESSORS	15
4.13	TRAINING OF APPROVED ASSESSORS.....	15
4.14	APPROVED ASSESSOR TRAINING	15
4.15	OBSERVATION OF ASSESSMENT OF THE CONTROLLED CRITERIA STATEMENTS	16
5	CERTIFICATION OF UNITS AND QUALIFICATIONS.....	17
5.1	UNIT CERTIFICATION	17
5.2	QUALIFICATION CERTIFICATION.....	17
5.3	AGGREGATION.....	18
6	CANDIDATES WITH PARTICULAR REQUIREMENTS	19
7	KEY SKILLS	19
8	CENTRE APPROVAL.....	20
8.1	CENTRE APPROVAL.....	20
9	SUPPORT SERVICE AND ADVICE.....	21
10	DETAILED SPECIFICATIONS FOR LEVEL 2 UNITS	22
10.1	UNIT 1 – GATHERING, ORGANISING AND PROCESSING DATA (LEVEL TWO)	22
10.2	UNIT 2 – DRAFTING, FORMATTING AND PRESENTING INFORMATION USING DTP (LEVEL TWO)	26
10.3	UNIT 3 – DRAFTING, FORMATTING AND PRESENTING INFORMATION USING PRESENTATION SOFTWARE (LEVEL TWO)	30
10.4	UNIT 4 - MANIPULATING GRAPHIC IMAGES (LEVEL TWO).....	34
10.5	UNIT 5 – COMMUNICATION USING EMAIL AND THE INTERNET (LEVEL TWO).....	38
10.6	UNIT 6 – USING ICT TO EFFICIENTLY ORGANISE AND HANDLE FILES (LEVEL TWO).....	42
10.7	UNIT 7 – USING WORD PROCESSING SOFTWARE (LEVEL TWO).....	46
10.8	UNIT 8 – MANIPULATING NUMERIC DATA USING SPREADSHEETS (LEVEL TWO)	50

10.9	UNIT 9 – CHOOSING AND USING ICT RESOURCES (LEVEL TWO)	54
10.10	UNIT 10 – DATA HANDLING USING DATABASES (LEVEL TWO).....	58
10.11	UNIT 11 – THE USE OF INPUTS, OUTPUTS, PROCESSING AND FEEDBACK IN CONTROL SYSTEMS (LEVEL TWO)	62
10.12	UNIT 12 – DATA LOGGING (LEVEL TWO).....	66
10.13	UNIT 13 – SIMPLE PROGRAMMING AND SEQUENCING (LEVEL TWO).....	71
10.14	UNIT 14 – USING CAD/CAM SYSTEMS (LEVEL TWO).....	75
10.15	UNIT 15 – CREATING ELECTRONIC MUSIC (LEVEL TWO)	79
10.16	UNIT 16 – UNDERSTANDING AND USING COMMUNICATION NETWORKS (LEVEL TWO)	83
10.17	UNIT 17 – DESIGNING WEB PAGES (LEVEL TWO).....	88
10.18	UNIT 18 – SECURITY, HEALTH AND SAFETY (LEVEL TWO).....	92
10.19	UNIT 19 – INTEGRATING HARDWARE SYSTEMS (LEVEL TWO).....	96
10.20	UNIT 20 – MOBILE TECHNOLOGIES (LEVEL TWO)	100
10.21	UNIT 21 – USING VIDEO CAPTURE SOFTWARE (LEVEL TWO)	104
10.22	UNIT 22 – USING A VIRTUAL LEARNING ENVIRONMENT (LEVEL TWO).....	108
10.23	AGGREGATION OF LEVEL TWO UNITS	112

1 Introduction

1.1 Rationale

ICAAE offers through this specification a series of vocationally related units, which lead to qualifications at Level One and Level Two of the NQF. ICAAE qualifications are designed to cover the requirements for ICT at Level One and Level Two of the National Qualification Framework and are delivered through single or cross-curricular materials in other curriculum areas. Any curriculum area other than ICT can be used to deliver the units. These qualifications are not meant to replace any part of the NC – they are vocationally related and learners will be able to demonstrate specific ICT skills that can be used in employment. The mapping (see appendix B) shows the areas of the National Curriculum that could be covered during the delivery of the various units. Schools will need to map their coverage of the statutory programme of study for ICT based upon their own curriculum delivery models.

In a technological society all citizens need to achieve vocationally related skills such as ICT user competences. These can be achieved discreetly or, as in many workplace environments through the purposeful application of newly acquired skills in context.

E-learning and the use of ICT to enhance subject teaching and learning is a vital part of raising standards in today's technological society. The units support the use of ICT user competences to raise standards.

To make the use of ICT user competences more transparent this qualification and its units are free standing. The qualification achieves this transparency by accrediting the purposeful use of ICT to enhance subject learning. This specification and units form a self standing qualification that supports and enhances subject specific ICT.

Vocationality is achieved by mirroring the workplace approach to ICT use. ICT skills are used in the workplace to facilitate the completion of purposeful tasks. The workplace tasks in an educational context are the reports, coursework, presentations, letters, models and documents required to provide evidence of subject learning and achievement. As in the workplace setting, the focus for the ICT skills used in this specification is used to meet a relevant purpose and need.

Vocationality in ICT is important as this:

- Increases the access and focus of ICT skills by offering access to a recognised qualification to ALL students whatever their chosen specialism
- Increases the correspondence of ICT skill acquisition with similar ICT skill acquisition in working life
- Assists in the transition of candidates from education into working life by providing a qualification that links to occupational standards and delivery methods
- Makes the evaluation of candidates fairer by allowing them to demonstrate competence through ICT application in individual curriculum areas of interest. This allows candidates to work in an area of personal interest thus aiding motivation and thus encouraging the candidate to produce the necessary evidence of performance.

To ensure vocationality and purposeful use, delivery of the units must be in accordance with the requirements of the National Curriculum for the curriculum area in which the work is being undertaken.

1.2 Compulsory and Optional Units

The grid below outlines the compulsory and optional units for each qualification award.

The ICAAE e-award/iTQ Unit Aggregation Each award comprises 2 compulsory units and two optional units. Each unit can only count towards a single award			Awards					
			Level 1		Level 2			
Unit No	Unit Titles	Award Titles	Communication and Presentation	Handling Data & Information	Communication and Presentation	Handling Data & Information	Systems and Control	Communication Technology
1	Gathering, Organising and Processing Data (Level 1 & 2)		Optional	Optional	Optional	Optional		
2	Drafting, Formatting and Presenting Information using DTP (Level 1 & 2)		Compulsory		Compulsory			
3	Drafting, Formatting and Presenting Information Using Presentation Software (Level 1 & 2)		Compulsory		Compulsory			
4	Manipulating Graphic Images (Level 1 & 2)		Optional		Optional			
5	Communication using Email and the Internet (Level 1 & 2)		Optional		Optional			
6	Using ICT to Efficiently Organise and Handle Files (Level 1 & 2)		Optional	Optional	Optional	Optional		
7	Using Word Processing Software (Level 1 & 2)		Optional	Optional	Optional	Optional		
8	Manipulating Numeric Data Using Spreadsheets (Level 1 & 2)			Compulsory		Compulsory		
9	Choosing and Using ICT Resources (Level 1 & 2)			Optional		Optional	Optional	Optional
10	Data Handling Using Databases (Level 1 & 2)			Compulsory		Compulsory		
11	The use of Inputs, Outputs, Processing and Feedback in Control Systems (Level 2)						Compulsory	
12	Data Logging (Level 2)					Optional	Optional	
13	Simple programming and sequencing (Level 2)						Compulsory	

14	Using CAD/CAM Systems (Level 2)			Optional	Optional	Optional	
15	Creating Electronic Music (Level 2)			Optional	Optional	Optional	
16	Understanding and Using Communication Networks (Level 2)						Compulsory
17	Designing Web Pages (Level 2)			Optional			Optional
18	Security, Health and Safety (Level 2)						Compulsory
19	Integrating Hardware Systems (Level 2)						Optional
20	Using Mobile Technologies (Level 2)						Optional
21	Using Video Capture Software (Level 1 & 2)	Optional		Optional			Optional
22	Using a Virtual Learning Environment	Optional		Optional			Optional

Some of the optional units are available to more than one qualification within the suite; however, **each unit may only be accredited once**. Optional units cannot be used more than once. This means that each qualification is made up of four unique units.

1.3 Notional learning time

A credit is equivalent to ten hours of notional total learning. This provides the most appropriate means of expressing and measuring the amount of learning undertaken by candidates including unsupervised learning such as homework or self-study assignment.

Each unit is equally weighted (25%).

A qualification consists of four units, each thirty hours guided learning time, equating to a total of one hundred and twenty hours of guided learning time.

For example for the Communication and Presentation (Level Two) qualification the following grid would apply:

Unit Title	Learning time
Drafting, Formatting and Presenting Information using DTP	30
Drafting, Formatting and Presenting Information using Presentation Software	30
Gathering, Organising and Processing Data OR Manipulating Graphic Images OR Communication using Email and the Internet OR Using ICT to Efficiently Organise and Handle Files OR Using Word Processing Software OR Using CAD/CAM Systems OR Creating Electronic Music OR Designing Web Pages OR Using Video Capture Software OR Using a Virtual Learning Environment	30
Gathering, Organising and Processing Data OR Manipulating Graphic Images OR Communication using Email and the Internet OR Using ICT to Efficiently Organise and Handle Files OR Using Word Processing Software OR Using CAD/CAM Systems OR Creating Electronic Music OR Designing Web Pages OR Using Video Capture Software OR Using a Virtual Learning Environment	30
Total number of learning hours	120

Each unit consists of thirty assessed statements. Fifteen are skills (can do) based statements and fifteen are knowledge and understanding based statements.

To maintain vocationality and ensure that all work completed for the unit is purposeful, credit can be gained for a unit where the work completed satisfies 27, 28, or 29 of the assessment criteria if the satisfaction of the remaining criteria would be of no value to the students in the curriculum area where the work is being undertaken.

The credit/number of learning hours allocated to each unit equates to a measure of volume not to the level of learning.

Candidates must reach the appropriate level for each unit to achieve the same level qualification.

2 Purpose and Scope

2.1 Overview

The qualifications provide a route for the development of an individual's skills in ICT to support them in achieving Level One or Level Two of the National Qualifications Framework, approximately equivalent to Levels 4 - 8 of the National Curriculum.

These qualifications are cross-curricular in nature and fully support the subject-based criteria within the National Qualifications Framework.

These qualifications can be used to assist teachers/tutors delivering the National Curriculum by certificating specific ICT skills. The qualifications should be delivered alongside guidance produced by QCA and DCSF.

The qualification structure has been designed to recognise that ICT capability is not age related, but contexts of delivery have to be structured in a way that motivates the candidate.

The content enables candidates to build up skills, knowledge and understanding of ICT in various contexts and thus to develop as autonomous users of ICT. Each unit within a qualification is 100% coursework. There is no written examination.

The specification and associated assessment materials are provided in English.

Candidate's responses should be submitted in English. Any centre wishing to submit in Welsh or Irish must apply to the Awarding Body prior to the first submission. There may be an additional cost.

2.2 Spiritual, Moral, Ethical, Social and Cultural Issues

Teacher/tutors will need to address the issues related to spiritual, moral, ethical, social and cultural issues. Candidates should be taught to reflect critically on their own and others' use of ICT and to identify social, moral, spiritual, and cultural and ethical issues related to its use. This can be achieved by exploring the ways that new technology has affected the way people work, live and play. Candidates can explore the ways that new technology directly affects the quality of people's lives by comparing the use of ICT and contrasting its use with non-ICT solutions.

2.3 E-Safety

Teacher/tutors will need to address the issue of e-safety, drawing candidates' attention to the potential dangers as well as the positive aspects of the use of ICT. Focussed discussions should be used to highlight the importance of candidates' safe and responsible use of ICT.

2.4 Health, Safety and Environmental Issues

In the same manner there should be a focus on discussions about the use and implementation of ICT systems related to environmental issues, health and safety considerations and European developments. Teachers/tutors need to address issues related to how the workforce makes use of ICT, and in so doing this could lead focused discussion sessions, e.g. European directives about using VDU's, consideration of environmental issues, such as the use of power and consumables, when working with ICT equipment.

Candidates need to recognise the importance of ICT in establishing stronger links between the countries of Europe and the growth of ICT networks across Europe and the rest of the world. Consideration should be given to both positive and potentially negative aspects of this growth such as easier access to international markets and the potential abuse of technology by criminals. In the same manner it is important for the candidates to develop an understanding of the National Curriculum Section 'Statement of Values by the National Forum for Values in Education and the Community'.

3 Outline of Qualifications

3.1 Units

Each unit requires candidates to carry out practical work based upon tasks that provide a sufficient and reliable demonstration of a range of skills, whilst giving candidates a more realistic approach to using ICT systems to solve a problem.

Each unit will be delivered using cross-curricular materials. This will enable centres to deliver the unit across a single subject or a range of subjects.

Candidates are required to produce 100% portfolio evidence, which demonstrates achievement against the learning outcomes associated with each unit. There are no written examinations.

Unit portfolios will be internally assessed by teachers/tutors. An approved Assessor will also validate 10% of the learning outcome statements.

Centres must use e-portfolio evidence for assessment as it provides the opportunity to collect evidence in both a structured and unstructured environment. (Any centre, which may have difficulty in meeting this requirement, may apply to ICAAE for special consideration for the production of paper-based materials. This will only be granted where for technical reasons a centre is unable to provide evidence in a readable format by electronic means.)

Each unit is awarded on **Pass, Merit and Distinction** grades.

Centres are required to provide candidates with access to appropriate hardware and software as identified in the units. However, the specification does not prescribe the specific hardware or software to be used. Recommendations have been made to the general type of applications, skills and techniques appropriate to the coverage of the units. These should be applied as appropriate to the resources available within a Centre.

3.2 Code of Practice

The awards will be conducted in accordance with the relevant Code of Practice developed by the regulatory authorities and agreed by the awarding bodies.

4 Structure and Assessment of Each Qualification

4.1 Centre Registration

Centres who wish to enter candidates for these units will be required to register with ICAAE for each unit/qualification, prior to enrolling candidates.

Once registered, centres will be issued with a Teacher/tutor handbook containing advice on delivery of these qualifications and administrative guidance.

4.2 Entry Requirements

4.2.1 Level One

There are no specific recommended prior learning requirements for the Level One units. However, prior knowledge via coverage of National Curriculum ICT at levels 1 – 3 is desirable. For adults some knowledge of ICT use is required.

Centres may find the e-skills passport useful in identifying the appropriate level of entry for each candidate.

Admittance onto a course of study remains at the discretion of the centre, based upon the above criteria.

There are no restrictions on candidate entry for these units. However, candidates should be made aware that duplication of qualification is not recommended.

4.2.2 Level Two

There are no specific prior learning requirements for the Level Two units. However, prior knowledge via coverage of National Curriculum ICT at levels 4 – 5 is desirable. For adults some Level One knowledge of ICT use is required.

4.3 Types of Evidence

Each candidate is required to create a portfolio of evidence, which demonstrates achievement against the learning outcomes associated with each unit.

Portfolio evidence can consist of:
Product evidence e.g. letters, reports
Observation notes
Working systems or sub-systems
Video or taped evidence
Automatic, electronically gathered evidence.

Evidence may be drawn from actual or simulated situations as appropriate. The awarding body will accept alternative methods, which are equally valid, reliable and maintain the integrity of assessment and the standards required for this qualification.

Other acceptable methods can include:

Professional discussions
Observation
Examination of products
Accreditation of Prior Experience and Learning (APEL)
Accreditation of Prior Achievement (APA)
Projects or assessed assignments
Simulated activities
Candidates' and peer reports
Evidence from others i.e. witness testimonials
Evidence of successful outcomes.

4.4 Candidate's Evidence Log

For each unit taken the candidates will record their progress and cross-reference their evidence in a Candidate's Evidence Log.

The purpose of the log is to assist the candidate in tracking their progress and to record the type of evidence produced and its location. It will also help the candidate to organise the evidence in a logical manner.

It can also be used by the teacher/tutor to verify some of the observed/knowledge learning outcome criteria statements.

It can also be used by the approved Assessor to verify the knowledge and understanding learning outcome criteria statements, which are part of the assessment procedure.

The Candidate Evidence Log may be electronic/automatic.

4.5 Scheme of Assessment

Each unit is to be assessed through a portfolio of evidence, gathered electronically, which demonstrates achievement against the learning outcomes associated with each unit.

The qualification aims to allow assessment to be conducted in authentic settings, allowing for subject/sector validity.

The mechanisms to do this are:

- Assessment takes place at the point of learning i.e. in the classroom or in the work place
- Assessment is conducted through a range of different styles
- Judgments are made against a clear standard, which sets out the expected level of performance
- Overall judgments of candidates' progress is continually updated as he/she completes more of his/her programme
- Candidates can track their own progress
- Learning can be cross-curricula.

4.6 Teacher/Tutor Assessment Criteria

The teacher/tutor within the centre will assess the unit portfolios.

It will be important to ensure that teacher/tutor-led assessment criteria (see assessment criteria in individuals units), are exercised reliably and fairly so as not to disadvantage candidates, therefore 10% of the evidence collected for each unit portfolio will be the focus of a scrutiny carried out by an approved Assessor.

4.7 Approved Assessor Validation

All the learning outcomes validated by the approved Assessor are taken from the knowledge and understanding column of the assessment grid for each unit. The reason for identifying key areas is to ensure that essential aspects of each unit have been consistently assessed by the teacher/tutor. This is due to the ephemeral nature of some process skills and the more subjective nature of assessing knowledge and understanding.

Within each individual specification the evidence, which the Assessor will validate, is coded 'AA' in the assessment grid. This evidence could take a range of forms.

4.8 Awarding Body Validation

To ensure consistency across centres and within them the awarding body will:

- approve centres for the delivery of units
- establish a network of approved Assessors
- monitor the work of the Assessor
- reserve the right to inspect the work of candidates.

4.9 Internal Assessment

Internal assessment is undertaken by the teacher/tutor delivering the units within the centre. The teacher/tutor will moderate the work of their candidates and sign a declaration that the work is that of the candidate.

Where there is more than one teacher/tutor delivering the units within a qualification the centre must carry out internal moderation. The purpose of this exercise is to ensure, as far as possible, that each of the teachers/tutors delivering the units has applied the same standard of assessment to each of the units.

The approved Assessor will verify that internal moderation has taken place where there is more than one teacher/tutor delivering the unit/qualification.

The approved Assessor cannot also be the teacher/tutor of the candidates being assessed.

4.10 Verification of Candidates' Work

For each unit of work, each candidate will be required to sign the Evidence Log as a declaration that all work/evidence submitted is solely their own.

4.11 Progression

These units have been designed to allow candidates the opportunity to follow an individual and progressive route.

Candidates can be accredited with just one unit of work or a number of units culminating in six individual qualifications if the unit aggregation and certification rules are met.

Where there are common units across both the Level One and Level Two e.g. spreadsheets, the Level Two skills, knowledge and understanding builds upon the corresponding Level One units. Candidates working at the lower level, particularly at Distinction and Merit level may be demonstrating Level Two competencies. Where this occurs the same evidence can be used as accredited prior learning for the Level Two qualification.

This can be achieved by either:

- (i) submitting proof of accredited prior learning or
- (ii) incorporating the evidence into the higher-level submission.

Having completed these qualifications at Level Two candidates will be prepared to progress towards Level Three of the iTQ.

4.12 Approved Assessors

An approved Assessor is an Assessor acting on behalf of the awarding body to ensure consistency of standards.

Centres may have approved Assessors within their centre or, may wish to use approved Assessors from other institutions. Approved Assessors can assess work from a range of centres.

Approved Assessors will usually be experienced in assessing work in the context in which the candidate is demonstrating the necessary skills and competences. This is to ensure validity in terms of the application of skills and knowledge in the environment in which they are demonstrated.

Centres may wish to nominate members of staff to train as an approved Assessor.

4.13 Training of Approved Assessors

To become an approved Assessor teachers/tutors will be required to undertake a one-day training course and only those teachers/tutors who manage to meet the necessary standards will be approved.

The training course will train Assessors to assess all of the compulsory and optional units, but may receive an endorsement restricting the scope of the environments in which they are able to carry out assessments. This is to ensure vocational relevance.

4.14 Approved Assessor Training

The approved Assessor-training day will consist of two components:

- Training
- Assessment.

During the assessment session the trainee Assessor will be assessed on their ability to assess the necessary controlled criteria statements, to the required standard. Assessors will be monitored to ensure consistency. To enable this monitoring to take place, all candidate work will remain the property of the awarding body for use in standardisation exercises. Such work will be appropriately edited to ensure anonymity if it is used as exemplars in training and guidance documents.

Assessors failing to meet the requirements of the specification will be removed from the list. The awarding body reserves the right to appoint a new assessor to re-assess candidate work prior to an award being made.

4.15 Observation of Assessment of the Controlled Criteria Statements

The awarding body reserves the right to observe the approved Assessor to confirm that the necessary regulations are being followed. Where observations take place an Observation of Controlled Assessment Report will be made available to the centre.

5 Certification of Units and Qualifications

Awards for units and qualifications will take place three times a year, at the end of every term.

5.1 Unit Certification

Each unit will be assessed and certificated individually through a Pass, Merit and Distinction grade.

There is no restriction on the number of times a candidate may take/re-sit each unit. Candidates can re-sit a unit in order to raise the level of award e.g. Pass to Merit or Distinction.

5.2 Qualification Certification

Each unit has three grades of award; these are aggregated to give the overall qualification at:

- Pass
- Merit
- Distinction.

5.3 Aggregation

Units awarded at Pass, Merit and Distinction are aggregated to produce an overall qualification grade based on the following combinations.

5.3.1 To be awarded an overall Pass grade a candidate must achieve one of the following combinations:

- 4 Passes
- 3 Passes & 1 Merit
- 3 Passes & 1 Distinction
- 2 Passes & 2 Merits
- 2 Passes & 2 Distinctions
- 2 Passes, 1 Merit & 1 Distinction.

5.3.2 To be awarded an overall Merit grade a candidate must achieve one of the following combinations:

- 4 Merits
- 3 Merits & 1 Pass
- 3 Merits & 1 Distinction
- 2 Merits & 2 Distinctions
- 2 Merits, 1 Pass & 1 Distinction
- 1 Merit, 1 Pass & 2 Distinctions.

5.3.3 To be awarded an overall Distinction grade a candidate must achieve one of the following combinations:

- 4 Distinctions
- 3 Distinctions & 1 Pass
- 3 Distinctions & 1 Merit.

6 Candidates with particular requirements

Details of arrangements for candidates with particular assessment requirements are provided in the document published by the Joint Council for Qualifications: Vocational Regulations and Guidance for Candidates with Special Assessment needs. Copies of the Regulations and Guidance can be obtained from ICAAE on request.

7 Key Skills

Key Skills are an area that is important for the candidates' future employment, education or training. Whilst they can be certificated separately they are an important aspect of learning in a vocational context.

It is anticipated that some candidates will also wish to gain a Key Skills Award. The projects carried out within the portfolio-assessed units could provide suitable evidence for a Key Skills portfolio but these projects would need to be mapped to the Key Skills criteria. In practice centres should consider the difficulty in trying to cover too many assessment objectives in a single piece of evidence.

Guidance on how the qualification can enable Key Skills coverage is included in Appendix A.

8 Centre Approval

8.1 Centre Approval

As a vocational qualification this specification requires a change in the approach to centres, from the traditional approach of quality control by awarding bodies to one with greater emphasis on quality assurance, with centres taking more responsibility for guaranteeing the effective assessment and delivery of accredited qualifications.

The approach aims to:

- Reduce bureaucracy for centres
- Increase choice and flexibility for centres
- Improve the quality of centre performance
- Assist learners and employers to make informed choices about qualifications and centres.

To ensure quality all centres will need to apply for approval to run the qualifications. The awarding body will approve centres that meet the following criteria:

- Subject expertise
- A willingness to use the qualification in curriculum areas other than ICT
- Adequacy of resources
- Senior management support
- Security arrangements for the collection and storage of candidate work. (A commitment by centres to working with organisations developing resources to collect digital portfolios will be considered to demonstrate a commitment to security and safety).

The supervision and authentication of candidate work is the key to the integrity and reliability of the units. As the evidence for these units is gathered in supervised conditions the authentication must be signed by the subject teacher/tutor. Centres must also demonstrate an ability to follow the procedures outlined by the awarding body to ensure:

- No plagiarism has occurred
- Candidates cannot edit, copy or delete other candidates' work.

9 Support Service and Advice

At any stage during the delivery of any of these qualifications teachers/tutors may contact ICAAE if they require advice, assistance or support regarding any aspect of internal assessment. ICAAE has contact staff in place to be able to discuss problems and it can be arranged for a visit to take place to a centre if necessary.

ICAAE has an increasing amount of online support and resources available for registered schools through the ICAAE website:

www.icaa.com

10 Detailed Specifications for Level 2 Units

10.1 Unit 1 – Gathering, Organising and Processing Data (Level Two)

10.1.1 Content overview

This unit explores methods of the purposeful gathering, organizing and processing data using ICT resources such as data sources, (both online and CDROM/DVD based) for use in context. At level 2 the unit builds on work covered in level 1 by integrating data from different sources and by exploring the validity and accuracy of data.

10.1.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.1.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Look for differences between various sources of information	IA	16	Understand different sources of information and their strengths and weaknesses	IA
02	Combine information from various sources	IA	17	Understand how to use information found to develop an hypothesis	IA
03	Amend information from various sources	IA	18	Understand the effects of using poor quality information in their work	IA
04	Interpret the plausibility of information found	IA	19	Understand the limitations and uses of onscreen thesauruses and spell checkers	IA
05	Use a wide range of strategies to explore contrasts, comparisons and connections dynamically	IA	20	Understand the need for forward planning to carry out research effectively	IA
06	Follow a complex line of enquiry	IA	21	Understand how to question the plausibility of information	IA
07	Explore texts in alternative versions (same text online or on disk)	IA	22	Understand how to draw on different features including numbers, text, sound and image to obtain meaning	AA
08	Organise information found in a format suitable for processing	IA	23	Understand how to extend research to use specific electronic reference resources	IA
09	Employs a variety of search strategies	IA	24	Understand how to evaluate the results of searches	AA
10	Check the accuracy of information found	IA	25	Understand how to avoid plagiarism	IA
11	Incorporate research processing methods	IA	26	Understand ways to organise material in order to clarify relationships among key concepts	AA
12	Use organisational features in a range of ICT resources	IA	27	Understand the legality of copyright	IA
13	Use information found to solve problems	IA	28	Understand how to select from information found to communicate effectively with others	IA
14	Retain evidence of the editing process so that it can be reviewed	IA	29	Understand the need for care in framing searches	IA
15	Use planning and proofing tools	IA	30	Understand how to identify where further information gathering is necessary and how to apply it	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.1.4 Range Statements

Various sources	Online, DVD, CD, electronic, Non-electronic
Plausibility	Authenticity, accuracy of information
Limitations	Dictionary size and type, custom dictionaries
Wide range of strategies	Hyperlinks different types of searches, use of indexes
Complex line of enquiry	Use of operators, and, or not, Boolean expressions
Different features	Retrieving information on screen includes: knowing how to use the search and find facilities to skim and scan effectively, use key words, summarise
Electronic reference resources	Gazetteers, biographical indexes, specialised indexes, literary criticism resources bibliographies, manuals, Government docs, online quotation references, atlases etc
Variety of search strategies	Subject, key word, truncation, bibliographical operators, Boolean operators
Evaluate search results	Usefulness, timeliness, credentials of originator, accuracy and reliability, bias, propaganda, point of view, historical context stereotyping, points of view, perspectives
Research processing methods	Quoting, paraphrasing footnoting, citing references, crediting sources
Organising materials	Chronological, topical, order of importance, relevance
Organisational features	Using indexes, chapters, hyperlinks, contents pages
Planning and proofing tools	Thesaurus, grammar checkers, onscreen dictionaries

10.1.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 13	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	04 12	23 28
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 - 30
4 Outcome – annotated printouts (real or virtual).	01 04 12 14 and 15	29
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	14 and 15	16

10.2 Unit 2 – Drafting, Formatting and Presenting Information Using DTP (Level Two)

10.2.1 Content overview

This unit covers methods of drafting, formatting and presenting information in printed form. Candidates will create their own DTP document. They will use common DTP functions such as templates.

10.2.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.2.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Create a new DTP document	IA	16	Understand advanced formatting features of DTP	IA
02	Create templates for someone else to use	IA	17	Understand the importance of consistent formatting	IA
03	Use templates	IA	18	Understand the advantages of using templates.	IA
04	Insert a graphic	IA	19	Understand the purpose of copyright	AA
05	Use different view options	IA	20	Understand the differences between WP and DTP (printing, layout)	IA
06	Export data from one software package to another	IA	21	Understand efficiency	IA
07	Use a range of proofing tools to check their work for spelling and punctuation errors, omissions and repetitions.	IA	22	Understand how to use lines/rulers	IA
08	Crop or resize images	IA	23	Understand how to crop images and the alternatives of resizing/masking	IA
09	Use either schemes, styles, style sets or style sheets	IA	24	Understand how to apply a scheme, style, style set or style sheet.	IA
10	Layer graphics and text	IA	25	Understand layers	IA
11	Use advanced text editing techniques	IA	26	Understand the process of proofing documents for publication	AA
12	Create a two or three column document	IA	27	Appreciate the range of styles needed for different audiences	AA
13	Insert a text frame	IA	28	Understand layout techniques	IA
14	Print a set of proof copies	IA	29	Understand the purpose of and how to proof print	IA
15	Emphasize a piece of text or image in a document	IA	30	Understand techniques for emphasising text and images	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.2.4 Range Statements

Create a new DTP document	Poster, double- sided folded leaflet/newspaper, pupils should plan and create a document using both screen and paper to develop initial ideas
Insert a graphic	Using scanner/digital camera
View options	Zoom in/Zoom out, print preview
Export data from one software package to another	Data from a data base or pictures from a graphics package, data from spreadsheet
Use a range of proofing tools	The proofing tools should include spell checkers, thesaurus, and grammar checkers.
Use advanced text editing techniques	Text flow, dropped capitals
Advanced formatting	Character spacing/kerning/indents & spacing/line and page breaks, hyphenation, section breaks, styles
Understand efficiency	Headers footers, use of templates, master pages, short cuts wizards, macros
Understand the differences between WP and DTP	Printing, layout
Appreciate the range of styles needed for different audiences	Language style, vocabulary, graphics –this may be undertaken by exploring different newspaper formats and their audience
Understand layout techniques	Fit to page, windows and orphans, white space, overlapping page items
Emphasize a piece of text or image in a document	Change colour, adding frames, underline, changing font size or style, shading, shadows
Understand different printing techniques	Lithographic, photocopying etc

10.2.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 13	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	04 12	23 28
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 - 30
4 Outcome – annotated printouts (real or virtual).	01 04 12 14 and 15	29
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	14 and 15	16

10.3 Unit 3 – Drafting, Formatting and Presenting Information using Presentation Software (Level Two)

10.3.1 Content overview

This unit covers methods of creating a new presentation to inform an audience. The unit covers formatting and presenting in electronic format. Candidates will use ICT based data and present this as useful information. Candidates will explore formatting options such as master slides, automatic timings, slide show options and the needs of the audience.

10.3.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.3.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Create a new presentation to inform an audience	IA	16	Understand how presentations can be used to inform an audience	IA
02	Use clip art libraries and other resources to insert objects e.g. images, sounds.	IA	17	Understand how to enhance a presentation using a variety of media in a presentation	IA
03	Create links to other documents	IA	18	Understand how to use absolute and relative links	IA
04	Create a master slide for a presentations	IA	19	Understand the use and purpose of re-applying styles	IA
05	Produce an automatic slide show	IA	20	Understand how to précis text	AA
06	Match the method and style of presentation to an audience	IA	21	Understand the needs of a range of audiences	AA
07	Follow specified house style	IA	22	Understand house styles	IA
08	Embed objects from other applications	IA	23	Understand when to embed objects from other applications	IA
09	Add automatic timings	IA	24	Understand how and when to use automatic timings	IA
10	Incorporate at least one appropriate image from a digital camera (i.e. a bitmap photograph) for use in a presentation	IA	25	Understand how image size can affect a presentation	IA
11	Add animations to objects on a slide (custom animation)	IA	26	Understand efficiency	IA
12	Add slide transitions to a presentation	IA	27	Understand when and how to use animation effectively	IA
13	Insert a table into a presentation	IA	28	Understand the use of tables	IA
14	Copy slides from one presentation to another	IA	29	Understand how to evaluate a presentation	AA
15	Add and print speaker notes	IA	30	Understand the importance of speaker notes	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.3.4 Range Statements

New presentation	At least 8 slides on a single topic
Inform	To present information that aides an audiences understanding of a topic e.g. the work of a particular poet or author, the contents of a book, how to perform a task. The information should be useful to the audience
Other resources	Web based resources, digital pictures, scanned images, animations, and sounds.
Links	Create at least 1 link e.g. hotspots, hyperlinks to websites, email addresses etc
Automatic slide show	A slide show that could run in a booth or on the Internet without the need for a presenter
Match to range of audiences	Amend and tailor the same presentation to at least 2 different audiences e.g. children/adults, teachers/students or 2 opposing points of view
House style	<p>Consistent style throughout a presentation that relate to a particular theme or corporate image e.g. use Old English fonts and image for Shakespearian presentations</p> <p>“The overall impression created and maintained over time by the consistent presentation of the brand in the prescribed manner and in appropriate contexts.” delineate.co.nz/the-branding-dictionary/</p> <p>“The style of preferred spelling, punctuation, hyphenation and indentation used in a publishing house or by a particular publication to ensure consistent typesetting. “ www.p3paper.com/glossary/h.html</p>
Embed	Use paste link or paste special e.g. graphs from a spreadsheet
Automate	Add at least 2 automatic timings to a slide show
Image size	Important when producing a presentation that has to be transported and used on a range of systems. Understanding should cover file size, types and compression
Efficiency	Use a least 1 efficiency measure e.g. the use of master slides and templates
Animation	Be able to add at least 3 different types of animation ensuring the correct sequence and timing, using preview where appropriate
Evaluate	To trial a presentation and use feedback from at least 1 source to modify the presentation to make it more effective

10.3.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 14	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	04 - 07	16 21
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 - 30
4 Outcome – annotated printouts (real or virtual).	01 05 07 15	
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	01 05 - 07 09 12	16 - 18 21 23 and 24 27

10.4 Unit 4 - Manipulating Graphic Images (Level Two)

10.4.1 Content overview

This unit explores the use and manipulation of graphic and photographic images. The unit covers the creation and manipulation of graphics including layers, textures, repeats and image resolution.

10.4.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.4.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Create artwork incorporating layers	IA	16	How different textured effects can be achieved	IA
02	Edit and retouch digitised images (i.e. scanned or from digital camera)	IA	17	Understand how the manipulation of digital images can be used to create desired outcomes.	IA
03	Use special effects to modify pictures	IA	18	Understand how to identify the best type of graphics software/tools based on desired outcome (e.g. paint or drawing package for vector or bitmap images)	AA
04	Use repeats	IA	19	Understand how to source images	IA
05	Group and ungroup different sets of images	IA	20	Understand how to create artwork to specific sizes and purposes	AA
06	Experiment with visual imagery	IA	21	Understand the effects of resolution on outputs	IA
07	Set resolution	IA	22	Understand the use of layers	IA
08	Review and modify work to improve quality	IA	23	Understand the use of common paint tools	IA
09	Select elements within an image	IA	24	How to use selection tools	IA
10	Alter transparency	IA	25	How to adjust transparency	IA
11	Add a fill	IA	26	How to use/add common graphic effects	IA
12	Save files in different formats	IA	27	Understand common file formats	IA
13	Combine and manipulate text with images	IA	28	Understand the difference between vector and bitmap images.	IA
14	Capture images from a range of sources	IA	29	Understand the importance of selecting appropriate formats and resolutions for saving artwork and images based on desired output	AA
15	Set print settings according to the media used	IA	30	Understand how different media affects the finished output	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.4.4 Range Statements

Incorporating layers	Layers should be used to investigate visual effects and assist in the development of ideas
Retouch	Retouch – modify an image appropriate to its end purpose e.g. remove red-eye, scratches, colour imbalance
Special effects	Shading, layering, emboss, sharpen and soften render, sketch, emboss, watermark, posterise
Sourcing images	From picture libraries, computer libraries, digital cameras and scanned images
Group/ungroup sets	Different shapes, boxes and borders
Creating artwork to specific sizes/ purposes	Size related to paper and print technique, purpose – to produce painting collage, print making, textile design)
Visual imagery	Distortion, lenses, colour manipulation
Review and modify	Seek out other people's opinions and modify their work to improve its quality based upon their own and other people's views
Common paint tools	Aerosol, eraser, paint crush, paint buckets
Selection tools	Lasso, extract, magic wand
Common graphic effects	Drop shadow and fills, pattern, gradient or solid colour
Common file formats	Jpeg, Gif, PDF, Tiff, PSD, bitmap
Manipulate text	Fit to path, text alignment, special effects
Capture images	At least 2 from web, digital camera, scanner, picture bank
Print media	Glossy, mat, transparent, etc

10.4.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 03 05 - 12 14 and 15	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	03 and 04 06 08 13	
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 18 - 30
4 Outcome – annotated printouts (real or virtual).	03 and 04 06 13 15	16 and 17 21 28 30
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.		20 28 30

10.5 Unit 5 – Communication using Email and the Internet (Level Two)

10.5.1 Content overview

This unit covers the use of ICT to communicate information electronically. It covers the use of email and the Internet as a means of exchanging electronic data and information. The unit also covers the use of search engines, navigation techniques and health and safety.

10.5.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.5.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Use a search engine to find information for a specific purpose	IA	16	Navigation techniques	AA
02	Refine a search	IA	17	Characteristics of different search engines	IA
03	Add a bookmark or favourite	IA	18	Awareness of book mark/favourite facilities	IA
04	Open two browser windows simultaneously	IA	19	Relevant health and safety procedures	IA
05	Switch between browsers to compare information	IA	20	How to compare information from two open browser windows	IA
06	Use a history facility to locate recently visited sites	IA	21	The structure of IP addresses and domain names	IA
07	Participate in newsgroups	IA	22	Newsgroup terminology	IA
08	Create an email with a hyperlink to a web page	IA	23	How to organise and save attachments	IA
09	Send an email message to more than one recipient at the same time	IA	24	How to set up address books and mail groups	AA
10	Compress attachments	IA	25	Understanding of files size and its effect	IA
11	Organise bookmarks/favourites into folders	IA	26	An understanding of networks and roaming	AA
12	Forward an email message and attachment	IA	27	How to run a virus check on incoming mail	IA
13	Add a signature to an email message	IA	28	How to add a signature	IA
14	Set up a folder and rule to organise emails	IA	29	How to add a rule	IA
15	Upload/download files from the internet	IA	30	Knowledge of viruses and Trojans	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.5.4 Range Statements

Internet	A global collection of computer networks used to communicate and exchange information.
Search Engine	Any Internet tool that allows the user to locate the desired information through a keyword search. Candidates will need basic knowledge of the differences between search engines and directories.
Searches	Candidates must demonstrate at least 4 searches including 2 using Boolean expressions
Bookmarks/ favourites	Candidates must set up at least 3 bookmarks/favourites and organise at least one of these in a folder they have created
Email message	Candidates must be able to create and send a new message, reply to a received message and add more than one recipient to a message
Attachments	Candidates must be able to add either text or graphic files as an attachment
File Compression	The use of any proprietary software e.g. WinZip to compress a file
Newsgroups	Candidates should take part in a newsgroup which involves the use of the Internet to exchange Email messages on topics of mutual interest
Text	Able to send and receive a text message to any other device
Roaming	An understanding that phone networks are fixed in the country where the phone is based, but can connect to other networks by roaming for the best connection when abroad.

10.5.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 15	27
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	03 06 08 11	17 20 23 24 25
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 and 17 19 21 and 22 26 28 - 30
4 Outcome – annotated printouts (real or virtual).		16 20 21 24
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.		18 20

10.6 Unit 6 – Using ICT to Efficiently Organise and Handle Files (Level Two)

10.6.1 Content overview

This unit covers the manipulation and handling of electronic data. It explores the efficient use of ICT to structure, display and reorganise files. Candidates will learn how to copy directories and folders, delete files and personalise file properties.

10.6.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.6.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Copy files and directories/folders to another location	IA	16	Understand that files need to be protected	AA
02	Rename existing files and directories/folders	IA	17	Understand naming conventions	IA
03	Print file structure - Using Screen Printing	IA	18	Understand the importance of regular backups	IA
04	Delete files and directories/folders	IA	19	Understand a range of methods for accessing files and directories/folders	IA
05	Move files and directories/folders	IA	20	Understand the use and purpose of copy/move/delete files	IA
06	Personalise file properties	IA	21	Understand the differences between documents/files and executable applications	AA
07	Use a file search to find a documents containing a specific piece of text	IA	22	Understand the differences between save and save as	IA
08	Set up a file structure	IA	23	Understand file structures and conventions	IA
09	Write protect a file/folder	IA	24	Understand data protection principles	IA
10	Compress a file	IA	25	Understand file size	AA
11	Expand a compressed file	IA	26	Understand the need for backups	IA
12	Use split screen facilities	IA	27	Understand the need for file security	IA
13	Save different version of the same document	IA	28	Understand version control	IA
14	Save a file in different formats	IA	29	Understand document formats	IA
15	Compare two documents	IA	30	Understand how to use ICT to compare documents	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.6.4 Range Statements

Path structures	Tree structures and drives on a network or stand alone computer – file in folder – possibly in other folders, on storage media
Drives	Hard drives, floppy drives, CD drives, drive letters
Save to drives	Network and stand-alone computer or different drives on the same computer
Protect files	E.g. different levels of administrator user/access
Organise	By date/name/type
File size	E.g. appropriate to use, compressing files for Internet
Storage medium	Floppy, hard drive, flash - differences between read/write and read only files
Compare	E.g. using compare function in track changes
Methods of file transfer	Use of data stick/removable storage device/network or Internet
Name folder	Rename existing folder
Search folders	Use search tools
Simple search	By file type or name
Time saving techniques	E.g. minimizing/maximizing
Showing files and folders	E.g. list, icons, alphabetically etc
Check file size	Use view commands
Open	Using different ways to open the file e.g. clicking on it or finding it through the file menu.
Reorganise	E.g. move to appropriate folders
Virus	Computer program that can replicate itself
Delete	Use delete key or backspace to remove specified text
Modify	Make a change to existing information
Input devices	Keyboard, mouse, scanner
Clarity	Use of bullet points, paragraph spacing, italics, bold, underline, titles
Basic editing functions	Insert, delete, remove, copy/paste, backspace, otype, spell-check
Accuracy	Accuracy of spelling and content

10.6.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/ Computer recorded action (electronic assessment).	01 and 02 04 05 06 - 15	19
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 05 and 06 08 10 12 14	23 30
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 - 30
4 Outcome – annotated printouts (real or virtual).	03 09 and 10	
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	03 10 and 11 13	

10.7 Unit 7 – Using Word Processing Software (Level Two)

10.7.1 Content overview

This unit focuses upon the purposeful use of a word processes to manipulate, handle and format electronic data for printing. Candidates will develop familiarity with the software and develop an understanding of advanced text manipulation and formatting.

10.7.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.7.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Create a new word processing document	IA	16	Understand the differences between WP and DTP (printing, layout)	IA
02	Create a template for others to use	IA	17	Understand the importance of consistent formatting	IA
03	Find and replace specified text	IA	18	Understand efficiency	IA
04	Adjust table properties to suit requirements	IA	19	How to format table properties	IA
05	Reformat text to add structure	IA	20	Understand the importance of structure in large documents	AA
06	Use paste special	IA	21	How to import elements from other applications	IA
07	Create a header/footer	IA	22	Understand the importance of headers/footers	IA
08	Use various methods to navigate around long documents	IA	23	Understand the range of navigation methods and when to use them	IA
09	Insert fields into a document	IA	24	Understand how to tailor document contents to audience	AA
10	Apply a text/paragraph style	IA	25	Understand the limitations of spelling and grammar checkers and auto correct etc	IA
11	Insert page and section breaks	IA	26	How different formatting can be applied to different document sections	IA
12	Use tracked changes	IA	27	Understand the importance of version control	IA
13	Personalise document properties	IA	28	Understand the importance of file management and storage	AA
14	Save documents in different formats	IA	29	Understand how to save documents for different purposes	IA
15	Use print preview and print selected pages from documents	IA	30	Understand a range of different print options	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.7.4 Range Statements

Create a document	More than one page
Adjust table properties	Size, table/cell alignment, text wrap, borders and shading, row break across page
Structure	Headings, sub headings, index, use of styles
Paste special	Paste link, formatted/unformatted text, document object
Header/footer	Auto date, auto page number, borders, fields
Navigate	Page up/page down, hyperlink indexes, search and find, bookmarks, go to
Insert fields	Common fields (page number, author, date) or mail merge fields.
Formats	RTF, TXT, PDF, HTML
Efficiency	Use of short cut keys, macros, auto check, auto insert,
Tailor content to audience	Language, style
Section breaks	Change page properties in selected sections e.g. orientation, margins, headers, footers
Version control	Save different versions of the document with either number or date system so that the latest version of the document can be easily identified by the user
File management	Location, version control, file name, backup ups, auto save,

10.7.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	0 1- 15	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	02 04 and 05 07 09 – 12 15	16 and 17 19 22 24 26
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		15 - 30
4 Outcome – annotated printouts (real or virtual).	01 and 02 04 09 - 13	30
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	01 and 02 04 09 - 13	20 24 29

10.8 Unit 8 – Manipulating Numeric Data Using Spreadsheets (Level Two)

10.8.1 Content overview

This unit focuses upon the manipulation of numeric data by creating a new spreadsheet. The unit covers formatting, calculations and error checking. Candidates will create a new spreadsheet and develop an understanding of the use and manipulation of numeric data and formulae.

10.8.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.8.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Create a new spreadsheet	IA	16	Understand how spreadsheets can be used for modelling	AA
02	Format a chart with titles and labels	IA	17	Understand a range of methods of presenting data in a spreadsheet	IA
03	Insert sheets	IA	18	Understand how to vary rules in a spreadsheet model	IA
04	Use comparison operators	IA	19	Understand complex formula	IA
05	Protect and unprotect worksheets	IA	20	Understand the need to protect data from change	IA
06	Hide and unhide columns	IA	21	Recognise different types of spreadsheet software	IA
07	Link spreadsheet data and values to a specific location	IA	22	Know how data can be linked to enable simultaneous updating	IA
08	Add a chart	IA	23	Know that spreadsheets can be linked to other applications	IA
09	Use common functions/tools	IA	24	Understand the use of functions in a spreadsheet	AA
10	Print a spreadsheet (formulas and areas)	IA	25	Understand how to use different print commands including print preview	IA
11	Use short cuts	IA	26	Know how to work with increasing efficiency	AA
12	Copy and paste a range of cells	IA	27	Understand the purpose of macros and wizards	IA
13	Use Find and replace	IA	28	Understand the range of common uses of spreadsheets e.g. accounts, budgeting, invoices etc	IA
14	Use simple validation techniques	IA	29	Understand the purpose of validation	IA
15	Use absolute and relative cell references	IA	30	Understand the difference between absolute and relative cell references	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.8.4 Range Statements

Data	Text, numerical, graphical data
Insert sheets	More than 3 worksheets in one workbook
Format chart	Able to change label, size, type of chart
Comparison operators	= equal to, < less than, >greater than
Protect and unprotect data	Contents, objects and scenarios, with and without password, worksheets, cells, workbooks
Hyperlinks	Working link e.g.: to a worksheet; file; website; graph
Chart	Any relevant chart, may use a wizard
Common functions	At least 2 functions from the following categories: maths & trig, date & time, look-up & reference
Print	Formulas and identified areas
Shortcuts	The aim of this is to demonstrate efficiency. Keypad or function key shortcuts, auto text, autocorrect, macros or wizards
Range of cells	More than 5
Use common tools	E.g. find and replace
Validation	At least one validation method e.g. define a list or a range of numbers,
Modelling	To enable the user to ask 'what if' questions
Presenting data	Graphical and non-graphical methods of presenting data e.g. different charting methods, different ways of emphasising data e.g. bold, colour font size, style. Candidates should use at least 3 of these methods
Rule	A formula or function used to model an outcome or scenario
Complex Formula	At least one formula which has other formula nested within it e.g. brackets within brackets or a formula which uses advanced functions e.g. statistical or financial functions
Macros and wizards	Candidates will use existing macros or wizards e.g. chart functions

10.8.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 15	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 08	
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 - 18 20 and 21 23 26 - 29
45 Outcome – annotated printouts (real or virtual).	02 10	25
56 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	07 14	16 and 17 22 and 23 26

10.9 Unit 9 – Choosing and Using ICT Resources (Level Two)

10.9.1 Content overview

This unit focuses upon the appropriate selection of ICT resources (computers, printers etc). The unit is designed to accredit basic competencies in selecting hardware and software for a specific purpose. Candidates will choose ICT resources to store and exchange data and information.

10.9.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.9.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Choose a method for exchanging information	IA	16	Understand the benefits and drawbacks of ICT use	AA
02	Identify and use a range of computer input devices	IA	17	Understand the benefits and drawbacks of a range of input devices	IA
03	Identify and use a range of computer systems	IA	18	Understand the main differences between commonly used computer systems	IA
04	Identify and use appropriate storage devices	IA	19	Understand the use of different storage devices	IA
05	Use ICT safely	IA	20	Understand how to recognize and reduce hazards when using ICT equipment	AA
06	Create and name files and folders	IA	21	Understand how current legislation affects ICT use	IA
07	Customize a working environment	IA	22	Understand how to customize a working environment	AA
08	Access data from different locations	IA	23	Understand the benefits of customizing working environments	IA
09	Change printer settings to print a document	IA	24	Understand when to seek help	IA
10	Check a document or file for viruses	IA	25	Understand the main types of printer	IA
11	Open a browser and find information on a chosen topic on the internet/intranet/CD-Rom	IA	26	Understand how to fix common printer errors	IA
12	Use an online application	IA	27	Understand how to connect devices	IA
13	State alternative input devices	IA	28	Understand the dangers of computer viruses, their symptoms and how to protect against them or remove them.	IA
14	Integrate applications	IA	29	Understand the use of ICT and its benefits for personal use	IA
15	Choose an appropriate input device for an identified need	IA	30	Understand how to integrate applications	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.9.4 Range Statements

Exchanging information	Emails/CD Rom/web cam
Range of computer systems	Desktop computer, digital phone, laptop or mobile device
Input devices	Keyboard, mouse, scanner, digital camera
Storage devices	Any 2 from: network areas, CDR's DVDr's, memory sticks, zip disk, floppy disks
Hazards	Obstacles, trailing cables, posture etc
Legislation	Relevant sections of: Health and Safety at Work Act (1974); Health & Safety (Display Screen Equipment) Regulations (1992) (Display Screen Regulations); Working Time Directive and Working Time Regulations (1998); Electricity at Work Regulations (1989)
Locations	Internet, hard-drive, removable storage media
Customise a working environment	Change settings of desktop, toolbars etc e.g. add background, add or remove icons
Printer settings	Orientation, draft, print individual pages
Seek help	When to try to resolve problems and when to ask for help
Connect devices	E.g. use of USB
On-line application	E.g. a search engine
Types of printer	Laser/inkjet
Common printer errors	Paper jams, empty cartridge
Input devices	Sensors, touch screens, concept keyboards, microphones
Integrated applications	Work between applications, e.g. produce picture in graphics package for use in a word processor

10.9.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 15	16 19 23 and 24 27
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 03 and 04 07 12	22
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 - 19 21 - 30
4 Outcome – annotated printouts (real or virtual).	09 11	25
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.		29 and 30

10.10 Unit 10 – Data Handling Using Databases (Level Two)

10.10.1 Content overview

This unit explores data handling and the purposeful use of databases to organise, explore and handle data. The unit covers the use of search techniques and the use of quantitative and qualitative data.

10.10.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.10.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Produce a database	IA	16	Understand the main uses and limitations of databases	AA
02	Add data to a database	IA	17	How to format data	IA
03	Search using wildcards	IA	18	How to use wildcards in searches	IA
04	Import data into a database from another database or data file	IA	19	How to narrow or broaden a search	IA
05	Set up a key field	IA	20	Understand the importance of Key Fields	IA
06	Check data accuracy	IA	21	Understand the importance of data validation	IA
07	Extract copies of all records	IA	22	Understand the differences between exact matches and any word	IA
08	Extract copies of unique records matching specific criteria	IA	23	How to use search operators	IA
09	Find and delete duplicate entries	IA	24	Understand how to avoid duplication	IA
10	Design a set of questions suitable for capturing data for database entry	IA	25	Understand basic validation techniques	AA
11	Design a database form	IA	26	Understand quantitative data collection	IA
12	Define new fields	IA	27	Understand file security	AA
13	Add a validation to the data	IA	28	Understand the importance of backing up database information	IA
14	Display data in a variety of ways	IA	29	Understand data protection principles	IA
15	Copy data from a database into another application	IA	30	Understand the different ways in which data can be displayed in a database	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.10.4 Range Statements

Produce	New or substantially modified
Wild cards	* ?
Format	Field lengths, field types
File security	Passwords, level of access
Efficiency	Use of short cut keys, macros, auto check, auto insert,
Find	Find a single record matching a single value using AND or OR
Modify	Make a change to existing information
Key Elements	Fields, records, forms, views, key field
Display data	Alphabetically by field
Data Protection	Main principles
Print	Use pre-set printer settings
Input devices	Keyboard, mouse, scanner

10.10.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 09 12 - 15	18 and 19 23 and 24
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 05 07 and 08 10 - 12 14	20 22 30
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 - 30
4 Outcome – annotated printouts (real or virtual).	09 10 and 11	25 30
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	01 04 10 13 15	21 26

10.11 Unit 11 – The use of Inputs, Outputs, Processing and Feedback in Control Systems (Level Two)

10.11.1 Content overview

This unit focuses on the use of inputs, outputs, processing and feedback in control systems. Candidates will also demonstrate an understanding of basic programming and be able to amend a set of instructions.

10.11.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.11.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Draw a simple control system showing input, process and output	IA	16	Demonstrate sufficient knowledge of input/processing/output	AA
02	Draw a flow diagram of a simple control system	IA	17	Identify control input/output peripheral devices	IA
03	Use a control software programme to control a device or event	IA	18	Understand a basic programming language suitable for a control system	AA
04	Write a series of instructions in order to control output	IA	19	Understand how to test a sequence of instructions.	IA
05	Make use of feedback in a control system	IA	20	Understand how to use feedback in a control system	IA
06	Make improvements to a control programme	IA	21	Understand how to control a sequence of events	IA
07	Set up hardware and software for a control task	IA	22	Understand how to test if peripheral hardware is working correctly	IA
08	Connect input devices to computer via suitable interfaces	IA	23	Identify a range of connection methods	IA
09	Connect output devices to computer via suitable interfaces	IA	24	Understand the function of each component and device used	IA
10	Amend a sequence of instructions to control output devices according to input states	IA	25	Describe the function of each input and output component	AA
11	Use instructions to turn devices on and off and implement time delays	IA	26	Understand how output can depend on input states	IA
12	Enter sequence of instructions to control a sequence of events	IA	27	Understand how to test different peripherals	IA
13	Connect a control components to a PC system	IA	28	Understands the purpose of sensors	IA
14	Save and print sequence of instructions	IA	29	Understand how to choose appropriate resources for a variety of contexts and activities	IA
15	Describe the basic hardware and software for computer-based control	IA	30	Understand the differences between data and information and the differences between continuous recording and simultaneous recording of data	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.11.4 Range Statements

Simple control system	E.g. a system for CAD/CAM, Music or Control Model
Flow diagram of control system	E.g. using appropriate British Standard symbols and making use of decision boxes
Basic programming language	E.g. logo
Range of connection methods	E.g. use of interfaces, serial, parallel, USB, wireless connection methods
Purpose of sensors	E.g. to convert a physical quantity into an electrical signal which can be translated by the computer into numerical values and graphical images in order to control events
Basic hardware and software for computer control	E.g. sensors, an interface and a computer. That normally, the sensors are plugged into the interface, which in turn is connected to the computer. Software component is a program for the computer; this is needed for managing the input, process and output
Differences between continuous and simultaneous recording	E.g. continuous rapid repetition of measurements (hundreds of values per second) to produce such a dense packing of data when plotted on the screen that it simulates the continuous recording of results. Simultaneous recording is measurements from several sensors collected simultaneously (the sensors may be of similar or different types)

10.11.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	03 - 13 15	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 and 02 06 10 12 14	
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	02 04 15	16 - 30
4 Outcome – annotated printouts (real or virtual).	01 and 02 04 10 14	21
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.		20 21 26 28

10.12 Unit 12 – Data Logging (Level Two)

10.12.1 Content overview

This unit focuses on data logging and the use of sensors. Candidates will undertake experiments using data logging equipment and save data for presentation at a later date. Candidates will develop an understanding of computer-based measurement.

10.12.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.12.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Use computer software and user interface devices for data logging and analysis	IA	16	Understand the importance of collecting data in scientific experiments and how data loggers can help	AA
02	Be able to set up equipment to take readings from the sensors at regular intervals.	IA	17	Understand that it is possible to take many "data" readings at time intervals.	IA
03	Analyse the results of an experiment using data logging equipment and software	IA	18	Understand that logging programs can provide aids for accurately analysing the results and performing calculations on the data.	IA
04	Save data analysis for use at a later date	IA	19	Understand the purpose of a data logger	IA
05	Present the data in a suitable form of display on the screen.	IA	20	Understand the benefits of graph plotting	IA
06	Use a range of sensors	IA	21	Understands the purpose of sensors	IA
07	Use laboratory instruments that provide an electrical output	IA	22	Understand that many laboratory instruments with an electrical output may be used together with a suitable connector to the data-logger.	IA
08	Describe the basic hardware and software for computer-based measurement	IA	23	Understand the differences between data and information and the differences between continuous recording and simultaneous recording of data	AA
09	Use data logging software	IA	24	Understands the purpose of data logging software	IA
10	Connect sensors to a data logger	IA	25	Understands that some types of data logger need to be first connected to a computer	IA
11	Retrieve data capture from remote data logging system	IA	26	Understands that some types of data-logger can be made to start logging data simply by a few presses on one or two buttons on the logger.	IA
12	Use software to create a graphical representation of data	IA	27	Understand graphs	IA
13	Set up a hypothesis	IA	28	Understand how to test variables	IA
14	Test and evaluate results against a hypothesis	IA	29	Understand the differences between analogue and digital data.	IA
15	Printout a hard copy of recorded data	IA	30	Understand the term and reasons for remote data logging	AA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.12.4 Range Statements

Importance of data logging	That observation and measurement are central features of practical activity in science and that a data logger provides several intelligent functions e.g. It can be programmed to collect data automatically, It contains its own memory for storing data, It contains circuits for timing and measuring voltage
Data readings	Ranging from a few microseconds to hours or even days.
Purpose of a data logger	A data-logger contains an electrical circuit, which acts as an intermediary between the sensors and the microcomputer. Its first purpose is to ensure that the magnitude of the voltage from the sensors is made compatible with the computer to allow safe connection and a useful range of measurement.
Present data in a suitable form	This could take the form of tables of numerical values, large digits, bar charts or as conventional graphs.
Benefits of using computers to plot graphs	The computer can generate them very quickly allowing the user to compare several sets of results in succession.
Range of sensors	Temperature, light intensity, sound level, angle of rotation, position, relative humidity, pH, dissolved oxygen, pulse (heart rate), breathing, wind speed, and motion.
Purpose of sensors	To convert a physical quantity into an electrical signal which can be translated by the computer into numerical values and graphical images.
Electrical outputs from lab instruments	Colorimeter, top-pan balance, or Spiro-meter.
Basic hardware/software for computer-based measurement	Sensors, a data-logger and a computer. That normally, the sensors are plugged into the data-logger circuit box, which in turn is connected to the computer. Software component is a program for the computer; this is needed for managing the collection, display, storage and analysis of data.
Differences between continuous and simultaneous recording	Continuous rapid repetition of measurements (hundreds of values per second) to produce such a dense packing of data when plotted on the screen that it simulates the continuous recording of results. Simultaneous recording is measurements from several sensors collected simultaneously (the sensors may be of similar or different types)
Sensors	Temperature, light intensity, sound level, angle of rotation, position, relative humidity, pH, dissolved oxygen, pulse (heart rate), breathing, wind speed, and motion.
Purpose of data logging software	The purpose of the program is to enable the user to control the collection, display and storage of the data obtained from sensors.
Computer connected data loggers	So that they can receive a program of instructions for collecting and storing data from the sensors.
Graphs	A quick overview of what may be going on in an experiment; gradual or sudden changes, continuity or discontinuity and particular interesting features understanding the use of scale markings and the effect of scales on the shape of a graph.

Testing variables	A straight line or a curve has distinctive properties, which provide insight and understanding of variables and their relationship. A variety of statements may be made about its properties with a variety of ways of exploring the properties of the linear relationship.
Analogue and digital	ANALOGUE The voltage may vary continuously over a range from 0V up to a maximum (usually 1V or 2.5V). DIGITAL The voltage may have only two values: HIGH (typically 5V) or LOW (0V).
Remote data logging	Data may be collected independently from the microcomputer using a data-logger. - Data-logger may be sited in locations which are not convenient for computers

10.12.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 and 02 04 to 07 09 to 14	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	03 08 15	16 and 17 20 to 22 27 to 29
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	03 08 15	16 - 30
4 Outcome – annotated printouts (real or virtual).	15	
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	12 15	

10.13 Unit 13 – Simple Programming and Sequencing (Level Two)

10.13.1 Content overview

This unit focuses on simple programming and sequencing. Candidates will solve a problem that requires repetition and sequencing using a simple computer programme.

10.13.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.13.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Use a structured problem solving process to solve a simple control or sequencing problems	IA	16	Understand the importance of input, process, output and feedback.	IA
02	Write out instructions using logic and simple sequences		17	Demonstrate an understanding of programming language concepts	AA
03	Apply a programming language to implement the logical structures of sequence, repetition, and selection	IA	18	Understand a simple programming language	IA
04	Use a computer programming language to solve problems	IA	19	Understand how a programming language works	IA
05	Use suitable programming terminology	IA	20	Understand the basic concepts and terminology of programming as a basis for further discovery.	IA
06	Solve a simple problem that involves several modules and require extensive use of repetition, sequence, and selection	IA	21	Understand repetition, sequence and selection	AA
07	Code and document a program using an appropriate programming language.	IA	22	Demonstrate an understanding of the consequences of incorrect programming	IA
08	Use correct syntax, grammar, and style	IA	23	Demonstrate an understanding of the consequences of incorrect sequencing	IA
09	Solve given problems that require testing and refinement of individual components.	IA	24	Understand how to test and refine a program or sequence of instructions	AA
10	Develop, trial and refine sets of instructions	IA	25	Understand how to review and refine instruction and sub routines critically.	IA
11	Use common programming sequences	IA	26	Understand hypothesis	IA
12	Produce a program that is free of logic errors	IA	27	Understand how to recognise errors.	IA
13	Produce a detailed evaluation of a system you have developed	IA	28	Understand the needs of different users	IA
14	Modify own solution as result of evaluation.	IA	29	Understand the importance of critical evaluation.	IA
15	Produce external documentation for a program e.g., user's manual	IA	30	Understand the needs of users in the production of user documentation	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.13.4 Range Statements

Structured process	A paper based written or pictorial story board for at least two given problems
Instructions	Going home, tying a shoelace, opening a combination lock, mowing a lawn
Programming language concepts	Story board using reduced vocabulary to show translation of an activity into a programming type language using reduced syntax and grammar
Programming language	Control language, "logo", macro language, visual basic, java, etc
Programming language to solve problems	Control language
How programming languages work	Structure, sequence, vocabulary
Common programming sequences	Repetition (loops) logical sequencing selecting (if... then... else) procedures (subroutines)
External documentation	User's manual

10.13.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 04 - 12 14	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 - 15	17 - 25 27 30
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	01 - 15	16 - 30
4 Outcome – annotated printouts (real or virtual).	01 - 13 15	16 20 and 21 23 28 - 30
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	01 - 13 15	

10.14 Unit 14 – Using CAD/CAM Systems (Level Two)

10.14.1 Content overview

In this unit candidates will demonstrate their understanding of CAD/CAM programmes. They will use a CAD programme to achieve a desired outcome and edit part of a control programme.

10.14.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.14.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Demonstrate the ability to set up drawings in a CAD program.	IA	16	Understand how to create drawings in a CAD program	AA
02	Identify difference types and functions of hardware and peripheral components common to all computer assisted drafting and manufacturing systems.	IA	17	Understand the main functions of hardware and peripherals common to CAD CAM systems	AA
03	Demonstrate the ability to utilise the display options in a CAD program	IA	18	Understand how to use the display options within a CAD package and describe the purpose of different display options.	IA
04	Demonstrate computer skills of the basic editing commands used to change an existing CAD drawing.	IA	19	Understand the features of the main editing commands in a CAD package	IA
05	Develop a minimum of two CAD drawings e.g. demonstrate the basic drawing requirements used in CAD programs	IA	20	Understand the main purpose of CAD and its benefits over traditional manual drawing techniques	IA
06	Initialise a computer numeric control system	IA	21	Understand the basic principles of CAM and numeric control	IA
07	Edit part of a control program	IA	22	Understand basic control programming	AA
08	Execute point-to-point positioning	IA	23	Understand the importance of exact positioning when using CAM	IA
09	Identify and name the main components of a CNC machine	IA	24	Understand the function of each of the main components of a CNC machine	IA
10	Identify co-ordinates	IA	25	Understand the use of coordinates	IA
11	Amend co-ordinates	IA	26	Understand the benefits of using ICT in manufacturing processes	IA
12	Write a program or sequence using absolute steps and prove the part program	IA	27	Understand the uses of ICT systems in manufacturing	IA
13	Locate a datum	IA	28	Understand how to create directories and save files	IA
14	State orally or in writing the definitions of basic terms, concepts and techniques used in CAD and CAM.	IA	29	Understand health and safety issues when using machinery	IA
15	Print a program for a CNC machine	IA	30	Understand how to transfer programs and data between machines	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.14.4 Range Statements

Using CAD programs	Use proper format using drawing tools and aids and then save the files to work disk or backup
Utilise display options	To increase drawing flexibility and increase drawing efficiency.
Benefits of ICT in manufacturing	Use of control machinery and processes individually or as part of a complete system use to control the flow of raw materials throughout the processes and use to communicate information to many departments
Uses of ICT systems	To receive or transmit manufacturing information, electronically, to sites anywhere around the world via email to simulate and test products prior to starting full production to quickly produce high quality colour proofs for checking to control a wide variety of fully automated machinery and processes to monitor the production processes at all stages, including inspection to monitor accurate costs for all aspects of the production processes to improve the health & safety of their workers by monitoring working environments

10.14.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 04 06 - 12 14	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 - 05 07 09 - 12 14 and 15	17 - 22 24 and 25 28 and 29
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	01 - 15	16 - 30
4 Outcome – annotated printouts (real or virtual).	01 - 15	16 22 30
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	01 - 13 15	21 25 30

10.15 Unit 15 – Creating Electronic Music (Level Two)

10.15.1 Content overview

This unit focuses on the production of a piece of music using electronic resources to experiment/record/sequence a musical event.

10.15.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.15.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Edit a musical event	IA	16	Understand the range of midi devices	AA
02	Capture a sound event	IA	17	Understand midi processing and playback	IA
03	Change a sound module via a mixing desk or porta-studio	IA	18	Understand the function and purpose of a mixing desk	IA
04	Experiment with equalizer and panning sections of a mixing desk channel	IA	19	Understand the range of functions on a mixing desk	IA
05	Experiment with musical ideas and rules	IA	20	Show knowledge of a range of musical styles, genres and traditions	AA
06	Experiment with in-line effects on different sounds	IA	21	Know about the range of different special effects available	IA
07	Create a piece of music using more than 4 mid channels simultaneously	IA	22	Understand the needs of an audience	IA
08	Record a sequence of sound events	IA	23	Understand how a musical instrument digital interface can be used to exchange information between computers and musical synthesizers	AA
09	Compare synthesized and 'traditional' instrumental sounds	IA	24	Understand when it is better to use ICT and where it is more appropriate to use traditional instruments to create music	IA
10	Select and use a variety of music hardware	IA	25	Understand how to choose appropriate resources for a variety of contexts and activities	IA
11	Use a range of modelling techniques	IA	26	Understand how modelling can be used in music	IA
12	Practice and rehearse a musical piece	IA	27	Understand the different roles and contribution of different members of a group or different musicians working together on the same scores and how midi technology can facilitate this.	IA
13	Export a midi file	IA	28	Understand the range of file formats suitable for import/export	IA
14	Analyse a system by breaking down an existing solution into subtasks, identifying input, process output	IA	29	Understand the components of a system including input, process, output	IA
15	Use ICT to transcribe a composition in to musical notation	IA	30	Understand the advantages and disadvantages of using ICT in transcription	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.15.4 Range Statements

Edit event	Alter the pitch, duration, warp, tempo and volume of a sound event
Range of devices	Synthesizers, signal processors, digital mixers
Capture an event	Use midi technology to capture a sound for processing and playback
Experimentation with mixing desk	Add or cut bass/treble, move sound from left to right,
Musical experimentation	Create a rhythm pattern
In-line effects	Add special effects, reverb, delay, chorus, etc
Use more than 4 mid channels	The music should be for performance to a specific audience and be composed with a sequencer and more than 4 midi channels played simultaneously
Needs of audience	Understand how to create music for a specific audience including the strengths and limitations of different methods of playback
Compare synthesized and traditional	Differences between live performances using traditional instruments and synthesized sounds to explore the strengths and weaknesses
Hardware	Midi inputs and outputs
File formats	OMF

10.15.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 and 02 04 -14	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 and 02 04 - 09 11 - 14	16 - 30
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	01 and 02 04 - 15	16 - 30
4 Outcome – annotated printouts (real or virtual).	15	20 - 21 23 28
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	01 and 02 04 - 15	

10.16 Unit 16 – Understanding and Using Communication Networks (Level Two)

10.16.1 Content overview

This unit focuses on the use of communication networks. Candidates will connect to a network and understand the differences between wired and wireless networks. They will also explore the sharing of data over a network.

10.16.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.16.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Describe the purpose and types of mail servers used for internet mail	IA	16	Understand the main parts of a mail server	IA
02	Describe the main types of network architecture	IA	17	Understand the two main types of network architecture and where they are used	IA
03	Describe the differences between an intranet and the internet	IA	18	Understand the main ways of connecting to the internet	IA
04	Describe the purpose of a fire wall	IA	19	Understand the differences between fire walls and virus checking software	AA
05	Set up a shared folder for use on a network	IA	20	Understand legal considerations	IA
06	Log into a network	IA	21	Understand the three main network typographies	IA
07	Describe the limitations of ICT networks	IA	22	Understand the importance of network protocols and be able to name at least three of the main protocols used.	IA
08	Navigate a network to find shared files	IA	23	Understand the main components needed for a web server	IA
09	Use a range of acronyms and correct terminology as used in the communications industry	IA	24	Understand the management of information	IA
10	Use appropriate files, file sizes and file structures for exchanging information i.e. zip files etc	IA	25	Understand the differences between information and data	IA
11	Describe two ways to connect to a network.	IA	26	Understand how to connect to a wireless network	IA
12	Discuss the impact of ICT communication networks on activities involving individuals, stating what, and how, tools and software are used.	IA	27	Understand the term "hand shaking" as related to networks	IA
13	Use a full range of communication systems	IA	28	Understand the main acronyms used in the communications industry	AA
14	Make informed choices by exploring alternative data or information sources.	IA	29	Understand the purpose of different types of communication networks	AA
15	Use efficiency tools	IA	30	Demonstrate an understanding of the limitations of ICT networks as a communication medium in meeting the needs of different audiences	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.16.4 Range Statements

Mail servers – type and purpose	DNS (Domain Naming Service) servers and routers that allow you to easily exchange mail with other Internet users.
Mail servers – main parts	An incoming SMTP (Simple Mail Transfer Protocol) process, that accepts incoming SMTP connections (from mail clients or other mail servers) and puts the messages received into the message store An outgoing SMTP process that relays received mail addressed to accounts on other mail servers A POP process that allows a mail client program to retrieve messages from the message store A message store that is used to temporarily store messages received from the incoming SMTP process, before they are retrieved (at the request of a mail client) by the POP process
Network architecture	LAN and WAN e.g. Internal networks usually referred to as a local area network (LAN), and External networks Wide Area Network (WAN).
	Intranet—A private network belonging to an organization that is only accessible to authorized users (typically members of that organization). Most large corporations operate an intranet to promote information sharing and increase productivity. Internet—The network connecting hundreds of millions of systems and users on a global scale.
Network Typographies	Star—Network components are connected to a central point Bus—Network components are connected to the same cable, often called the bus or the backbone Ring—Network components are connected to each other in a closed loop with each device directly connected to two other devices
Network protocols	AppleTalk—The communications protocol developed by Apple to connect Macintosh computers and printers. Asynchronous Transfer Mode (ATM)—A protocol based on transferring data in fixed-size packets. Using fixed packet sizes allows for high speed, equitable transfer of data, video, and voice over the same network. DECnet—The protocol developed by Digital Equipment Corporation used to connect PDP and VAX systems. Ethernet—The LAN protocol developed jointly by Xerox, DEC, and Intel. The most widely implemented LAN standard. Fibre Distributed Data Interface (FDDI)—The protocol for sending digital data over fibre optic cabling. Internet Protocols (IP)—The protocols for managing and transmitting data between packet-switched computer networks originally developed for the Department of Defence. E-mail, File Transfer Protocol (FTP), Telnet, and Hypertext Transfer Protocol (HTTP) are all Internet Protocols. Internetwork Packet Exchange (IPX)—The networking protocol used by Novell NetWare operating systems. NetWare—The LAN protocol developed by Novell Corporation. Signalling System 7 (SS7)—The telecommunications protocol developed by the International Telecommunication Union. This protocol is used between PBXs to handle tasks such as call setup, routing, and teardown. Transmission Control Protocol/Internet Protocol (TCP/IP)—The collection of communications protocols used to connect hosts on the Internet. TCP/IP is by far the most commonly used network protocol. The TCP and IP protocols are both part of TCP/IP.
Web server components	A Web Server is located on a local area network (LAN), with the LAN connected via a router to an Internet access provider. The Internet access provider has a direct connection to a network node on the Internet.

Information management	How data is captured, verified and stored for effective use; keeping information secure; designing networks to share information
Connecting to networks	Cable, Bluetooth wireless.
Purpose of networks	Manipulation, processing and distribution of information
Full range	Use complex lines of enquiry to get the necessary information for a task e.g. Emails and attachments. Web discussion groups, bookmarks and text where appropriate.
Alternative data	Find contradictory data from different networks/locations
Different communication networks	Fixed and mobile networks, voice and data networks, local and wide area networks
Efficiency tools	'Paste specials' to update data automatically within applications

10.16.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	05 and 06 08 - 10 13 - 15	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	01 - 04 07 and 09 11 and 12	16
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	01 - 04 07 09 11 and 12	16 - 30
4 Outcome – annotated printouts (real or virtual).		
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.		30

10.17 Unit 17 – Designing Web Pages (Level Two)

10.17.1 Content overview

This unit is designed to accredit candidates who are designing web pages. Candidates will work in an organised way to use an HTML editor to produce and link web pages.

10.17.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.17.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Use web site design software to create a range of special effects	IA	16	Understand a range of special effects	IA
02	Design and create a website for an agreed purpose	IA	17	Know how to use a plan or storyboard to design a website	AA
03	Insert text and background colours appropriate to the needs of users	IA	18	Understand the different needs of users and target groups	IA
04	Use an HTML editor to adapt or change a webpage	IA	19	Understand basic HTML commands and how they affect page content	IA
05	Save work in an organised way	IA	20	Understand basic file management and naming conventions used in web design	IA
06	Create internal hyperlinks using special features	IA	21	Understand how to create and use and test hyperlinks	IA
07	Create hyperlinks to a remote website	IA	22	Understand absolute and relative addressing principles	IA
08	Plan how pages link together	IA	23	Understand hierarchical addressing principles and practices used in the construction of websites	IA
09	Use meta-tags or page titles	IA	24	Understand the purpose and use of the title and meta tags	IA
10	Test web pages in a browser	IA	25	Understand how to view and test web pages in a browser	IA
11	Edit page content in response to feedback and constraints and evaluation of own work	IA	26	Understand the efficiency of using standard repetitive content	AA
12	Create a house style for the website	IA	27	Understand the efficiency of using library graphics and content in creating websites and in download	IA
13	Adapt images to make them suitable for a website	IA	28	Identify common file formats used for source images	IA
14	Create a webpage suitable for a stated accessibility issue	IA	29	Understand special needs	IA
15	Save a website suitable for publishing	IA	30	Understand how to save web pages (.htm, .html) and the importance of retaining original filenames	AA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.17.4 Range Statements

A range of special effects	Microsoft FrontPage; Macromedia Dreamweaver to create effects such as animations, mouseovers, colour hyperlinks,
An agreed purpose	Consisting of two or more pages
HTML editor	Editor within application such as Golive or Dreamweaver or a dedicated HTML editor
HTML commands	Layout e.g. headings; sub-headings; body text; text; image, placement, format text: font; size; colour
Organisation	Create folder and sub-folder
File management and naming conventions	Consistency; use of spaces; file extensions and case e.g. upper and lower case
Special features	Mouseovers
Remote websites	Website on a different server, email
Absolute and relative referencing	Absolute address: an external file location e.g. http://www.icaa.org.uk/awards/images/logo.jpg , Relative address: file location in relation to local files e.g. images/logo. Jpg
Planning links	Draw a tree structure to show navigation and hierarchical structure of the web pages
Meta tags	Author, keywords, description
House style	Consistency, regular features, use of templates, frames, tables etc
Adapting images	Lower resolution, change file format
Common file formats	txt, .gif, .jpg
Accessibility	Hearing or sight impairments or other special needs
Publishing websites	Suitable for uploading to a server using ftp or web design software

10.17.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 05 08 10 and 11 13 15	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	02 - 04 06 - 09 11 13 and 14	
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.		16 - 30
4 Outcome – annotated printouts (real or virtual).	01	
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	01 - 04 06 and 07 09 12 14	16 and 17 19 23 26 and 27

10.18 Unit 18 – Security, Health and Safety (Level Two)

10.18.1 Content overview

This unit focuses on security health and safety issues in the use of ICT. Candidates will demonstrate an ability to recognize and reduce hazards and work safely. They will also understand computer misuse including viruses.

10.18.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.18.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Follow organisational rules	IA	16	Understand the reason for organizational rules	IA
02	Collect examples of the rules/code of practice in force in your institution	IA	17	Understand why your institution has specific rules in place	AA
03	Reduce hazards by working safely	IA	18	Understand how to identify and reduce hazards to safety within the ICT setting	IA
04	Explain Health and Safety issues	IA	19	Understand how to avoid health and safety problems when using ICT equipment.	AA
05	Locate temporary internet folder and delete files	IA	20	Understand that when using networks, temporary files can be generated and why and where	IA
06	Check the security rating for internet sites	IA	21	Understand the importance of security rating and why settings need to be changed for different users	IA
07	Change the privacy settings to block cookies	IA	22	Understand the advantages and disadvantages of cookies	IA
08	Explain basic current legislation	IA	23	Understand the purpose of legislation	IA
09	Use a login or password to enter a restricted area	IA	24	Understand the purpose of passwords and levels of access	AA
10	Use a virus checker	IA	25	Understand the purpose of virus checking software and the importance of keeping it up-to-date	IA
11	Explain the term 'computer virus'	IA	26	Understand how to safeguard a computer from viruses	IA
12	Send a file securely	IA	27	Understand how to send a file securely	IA
13	Protect a saved document	IA	28	Understand the difference between single and shared workstations	IA
14	Set an auto-backup to run in an application	IA	29	Understand the importance of regular backups	IA
15	Produce a short presentation focusing on a security or health and safety issue	IA	30	Understand that personal, hidden information can be extracted from files by other users	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.18.4 Range Statements

Follow organisational rules	ICT policy relating to use of e-mail, the internet and using disks
Examples of rules	Internet policy, network policy, code of conduct, rules
Hazards	Hazards: something with potential to cause harm e.g.: obstacles; trailing cables; inappropriate organisations of work stations; use of tools and equipment without care; by working safely when setting up and using equipment
Health and safety issues	Ways to keep risks to self, other people and equipment to a minimum
Temporary files	Purpose of temporary files and where they are stored
Cookies	Cookies: information that is entered into the browser used to identify the user and track their actions
Health and Safety regulations	Relevant sections of: Health and Safety at Work Act (1974); Health & Safety (Display Screen Equipment) Regulations (1992) (Display Screen Regulations); Working Time Directive and Working Time Regulations (1998); Electricity at Work Regulations (1989)
Computer virus	A computer program that can replicate itself
Protecting documents	Add a password to modify or read-only
File security	Encryption, secure servers, private networks
Short presentation	At least 5 slides/pages

10.18.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 03 05 - 07 09 and 10 12 - 14	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	02 04 08 11 13 15	
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	02 04 08 11 15	16 - 30
4 Outcome – annotated printouts (real or virtual).		
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	15	

10.19 Unit 19 – Integrating Hardware Systems (Level Two)

10.19.1 Content overview

This unit focuses on the choice and use of hardware systems and sub-systems. Candidates will select hardware and modify/customize software for a given purpose.

10.19.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.19.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Add a peripheral device	IA	16	Understand the importance of compatibility	IA
02	Add storage media device	IA	17	Understand file storage areas	IA
03	Move files from one device to another	IA	18	Understand file formats and software requirements	IA
04	Describe causes and effects of common problems associated with hardware and software	IA	19	Understand how to check compatibility of a range of hardware, software and operating systems	IA
05	Resolve problems encountered with hardware	IA	20	Understand how to develop and evaluate options and alternative conclusions in a problem	IA
06	Resolve problems with software	IA	21	Understand how to translate data and information	IA
07	Customise a desktop	IA	22	Understand how to trial and select the most efficient and effective systems.	AA
08	Connect computerised equipment so that it can communicate together	IA	23	Understand IP addresses	IA
09	Change the features within a software applications	IA	24	Understand how to critically review effectiveness of a software application	IA
10	Write or modify a macro to improve efficiency	IA	25	Understand how a macro can be used to automate features within functions within systems	AA
11	Merge two documents	IA	26	Understand the purpose and function of merge facilities	IA
12	Change the interface of a system	IA	27	Understand how to tailor a system for a specific purpose or audience	IA
13	Use integrated communication tools to take part in an on-line discussion or forum	IA	28	Understand how to use appropriate communication tools to convey an impact on individuals and organisations.	IA
14	Use appropriate files, file sizes and file structures and compressed files for exchanging information	IA	29	Identify any limits in the software tools, which may have restricted the success of the integrated communication systems	IA
15	Evaluate own work and solutions and use effective methods and terminology	IA	30	Understand how to identify social limitations of integrated systems e.g. based upon ethical, social and legal responsibilities	AA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.19.4 Range Statements

Peripheral device	Printer; fax machine; memory stick; PDA
Compatibility	Making sure there are no conflicts with hardware, software and operating systems
Storage media device	Any two from: floppy disk; zip disk; CD ROM; network space memory stick; hard drive
File storage areas	Directories or folders on any of the following: floppy disk; hard drive; network space; USB memory stick; pen or key
Moving files from one device to another	Any two from: hard drive; network space; floppy disk; digital camera; memory stick or any removable media; scanner
File formats and software requirements	To make compatible, and then combine, different forms of data.
Hardware problems	Loose connections
Software issues	Incompatible file types
Translating data and information	Using knowledge about file formats, software requirements etc
Customise a desktop	Size and position of icons; wallpaper; screensaver; font sizes
Connecting equipment for communication	Laptop or desktop computer (e.g.: screen; keyboard; base unit) plus any two from the following: PDA (Personal Digital Assistant); external drives e.g.: floppy disk or CD; digital camera; web cam; scanner; printer
IP addresses	Internet Protocol addresses; the unique address given to a network connected computer communicating over TCP/IP, comprising of four octets separated by dots, e.g. 192.168.53.66
Merge two documents	Within a word processor
Change the interface of a system	Language, tool bars
On-line discussion or forum	MSN
Compressed files	Zip files etc
Physical restrictions of integrating systems	File size, transfer speeds etc
Social limitations of integrated systems	Based upon ethical, social and legal responsibilities

10.19.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/ Computer recorded action (electronic assessment).	01 - 03 05 - 14	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	04 10 13 - 15	
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	04 14 and 15	16 - 30
4 Outcome – annotated printouts (real or virtual).	15	27
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	15	25 27

10.20 Unit 20 – Mobile Technologies (Level Two)

10.20.1 Content overview

This unit focuses on the use of mobile technology. Candidates will demonstrate an ability to use mobile technologies in an effective and efficient way to communicate and exchange data.

10.20.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

It should be noted that an additional type of evidence – Finished Product Outcome – is included in Level Two evidence. This is to enable candidates to provide evidence in the form of their own devised outcomes to a set problem.

10.20.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Use a range of input methods	IA	16	Understand how to use a wireless palm sized device	IA
02	Send a text message to multiple recipients	IA	17	Understand wireless networks and issues of coverage	IA
03	Use predictive text	IA	18	Understand the term roaming	IA
04	Set up a folder for a text message	IA	19	Understand that different countries have different wireless systems	IA
05	Reply to a received text message	IA	20	Understand the different types of mobile device available	AA
06	Add a word to a custom dictionary	IA	21	Understand the strengths and limitations of predictive text	IA
07	Log on to a network e.g. internet or email server	IA	22	Understand folder/file structures	IA
08	Use a browser	IA	23	Understand when to add words to dictionary and when not to	IA
09	Use wireless network to send a picture or file	IA	24	Understand basic wireless networks and use	IA
10	Use abbreviated text formats	IA	25	Understand common wireless networks	IA
11	Use a built camera to capture an image	IA	26	Understand why abbreviated text formats came about	IA
12	Transfer a captured image to another device	IA	27	Understand the differences between HTML and mobile network web pages	AA
13	Send an email using a mobile device	IA	28	Understand the importance of file size	IA
14	Change the settings on a mobile device	IA	29	Understand the main differences between text and email	IA
15	Describe the main advantages and disadvantages of using a mobile device	IA	30	Understand the main features of a mobile device and describe the main methods of data input and output	AA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.20.4 Range Statements

A range of input methods	Voice, keypad, touch screen, camera
Wireless palm sized device	Palm top, PDA, mobile phone, XDA
Wireless networks and issues of coverage	Mobile network (orange, O2 etc) and where signals are blocked or not available
Roaming	When abroad phone can switch between networks – increased cost etc
Wireless systems	Importance of tri-band
Mobile device available	Phones, PDAs, XDAs, Blackberry, Palm tops
Limitations of predictive text	Words not in dictionary
Use a browser	To find an internet site, ring tone, image, game etc
User dictionaries	Names, postcodes etc
Basic wireless networks and use	Netiquette, use of masts to enable log in
Common wireless networks	WAP, GPRS, G2
Abbreviated text formats	Restriction on number of characters
Capture an image	Still or moving image
Another device	Via network, Bluetooth or IR
Settings on a mobile device	Skin, stand by timings, ring tones, wall paper etc
Differences between text and email	Purpose, immediacy, equipment
Advantages and disadvantages of using a mobile device	Cost, signal, convenience
Main methods of data input and output	Functions, software, touch-screen, keypad etc

10.20.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 14	
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.		
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	15	16 - 30
4 Outcome – annotated printouts (real or virtual).		
5 Evidence of product outcome e.g. a working model. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.		

10.21 Unit 21 – Using Video Capture Software (Level Two)

10.21.1 Content overview

This unit focuses on the use of video editing software. Candidates will develop a basic understanding of how to combine video clips into a sequence which fulfils a specific purpose.

10.21.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

10.21.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Identify the audience for a video production	IA	16	Understand how to meet the needs of different audiences	IA
02	Select suitable material (images and video clips) for use in creating a video for a specific purpose	IA	17	How to find and import suitable images and video clips	IA
03	Create a plan or storyboard for a short video sequence for a specific purpose	IA	18	Understand that a video needs to be planned	AA
04	Import images/video clips into a video editing program	IA	19	How to import clips	IA
05	Arrange video clips on the timeline	IA	20	How to use video editing software to work with multiple tracks	IA
06	Use the previewing and editing tools to combine selected items into a short video production	IA	21	How to work with the timeline	IA
07	Capture sound clips	IA	22	How to capture and import sound clips	IA
08	Use the reviewing tools to identify frames to be incorporated in a finished production and frames to be discarded	IA	23	How to use the editing tools to select required material and discard unwanted materials	IA
09	Use visual and or sound effects to add impact	IA	24	How to add visual effects	IA
10	Export the finished product	IA	25	How to pause and move between individual frames	IA
11	Capture video clips	IA	26	How to add sound effects	IA
12	Use suitable transitions between scenes	IA	27	How to use transitions to add impact	AA
13	Create text sequences	IA	28	How to generate and edit title and credit sequences	AA
14	Create a video file for viewing on a specific device	IA	29	How to export video files and choose the most appropriate format	IA
15	Include an audio track which enhances the visual message	IA	30	Understand how well they have used the video editing software to achieve their goals	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporates what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience/need shown			The candidate has evaluated the effectiveness of his/her own work.		
			The candidate has developed confidence in using the software, has worked independently and supported other students in solving problems.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.21.4 Range Statements

Storyboard	A sequence of images showing a plan for the video sequence
Clips	Short section of digital video
Video library	This can refer to an online video library or to other sources of digital video clips. Students may select from a local library which has been created in advance for a specific project by their teacher/tutor.
Titles	A title introducing the video sequence
Credits	Final credits to those who created the video sequence
Audio track	May be a narration, music, other sounds or a combination of these

10.21.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	01 - 15	16-29
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	1 3 13	16-18
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	1 3	16-18 30
4 Outcome – annotated printouts (real or virtual).	1-15	30
5 Evidence of product outcome e.g. a video sequence. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	01-15	16-30

10.22 Unit 22 – Using a Virtual Learning Environment (Level Two)

10.22.1 Content overview

This unit focuses on more confident use of a virtual learning environment (VLE). Candidates will develop skills enabling them to participate as members of an online learning community, completing both online and offline tasks.

10.22.2 Overview of Structure

The grid will identify the learning outcomes, range statements and types of evidence acceptable for each statement. Some statements map to more than one type of evidence and teachers/tutors can select the most appropriate means of collecting evidence to suit individual candidates.

10.22.3 Learning Outcomes

What the candidate must do (skills):			What the candidate must know (knowledge):		
01	Navigate a VLE to locate learning resources	IA	16	How to move around a VLE	IA
02	Navigate a VLE to locate specific community resources	IA	17	How to return to the VLE home page	IA
03	Download learning resources from a VLE storage area	IA	18	How to download VLE resources	IA
04	Complete an online test within a VLE	IA	19	How to save VLE resources	IA
05	Use a VLE to communicate with a tutor/teacher to extend learning	IA	20	How to use a VLE to communicate with tutors/teachers	IA
06	Participate in an extended forum discussion within a VLE	IA	21	Understand that the dynamics of a VLE forum discussion can be different from those in more traditional environments	IA
07	Participate in a VLE real time discussion (or "chat")	IA	22	Know the etiquette for "chatting" in their learning community	IA
08	Collaborate with other VLE users to produce a joint outcome	IA	23	How to use the VLE as a medium for collaboration	IA
09	Upload a file to a VLE storage location	IA	24	How to upload VLE resources	IA
10	Use the VLE to give feedback to peers on their work	IA	25	Know the guidelines in place in their learning community for peer review	AA
11	Use the VLE to review the ideas of peers	IA	26	How to switch between different VLE courses	IA
12	Use the VLE to comment on the ideas of peers	IA	27	Understand that a VLE forum can allow for a more thoughtful contribution than a live discussion	AA
13	Use a VLE forum to hold a learning conversation with people in other classes	IA	28	Understand that a VLE allows pupils to work together without being in the same place at the same time	AA
14	Use the VLE to share ideas	IA	29	How to make a positive contribution to a VLE real time discussion (or "chat")	IA
15	Use the VLE as a forum to share information	IA	30	How to upload information for sharing	IA
Merit			Distinction		
Worked efficiently e.g. use of shortcuts.			Candidates incorporate what they have learnt in one topic and applied it to another in order to achieve a worthwhile outcome		
Good sense of audience shown			The candidate has evaluated the effectiveness of using the VLE on his/her own learning.		

(IA = those statements assessed by the teacher/tutor. AA indicates those statements validated by the approved Assessor)

10.22.4 Range Statements

Self-study	Any task which the student completes independently other than during the course of the lesson
VLE	Virtual Learning Environment
chat	Online discussion held in real time
Forum discussion	Online discussion held over an extended period
Learning community	Those involved in a particular “course” of learning (may be an actual course or an interest group focussed on a particular topic)

10.22.5 Evidence Grid

Type of Acceptable Evidence	Skills	Knowledge
1 Observation/Screen cam/video cam/Computer recorded action (electronic assessment).	1 - 15	16- 30
2 Outcome – annotated screen shot/dumps. Annotation can take the form of written annotation (paper based) on screen annotation e.g. comments or notes which can be written or audio.	1-15	16-30
3 Project Assignment/report. Candidates may be given a short assignment or be asked to produce a brief report, using any suitable software e.g. a presentation. Templates may be used to guide candidates and these reports may be electronic or paper –based.	1-15	16-30
4 Outcome – annotated printouts (real or virtual).	3-10 12-15	16-30
5 Evidence of product outcome e.g. a completed assignment. In addition to the criteria stated here, to obtain a Distinction a candidate will need product outcome evidence of their application of knowledge, understanding and skills in an additional area.	1-15	16-30

10.23 Aggregation of Level Two Units

The Level Two units can be combined to create the following qualifications:
 Communication and Presentation,
 Handling Data and Information,
 Systems and Control **and**
 Communication Technology.

Compulsory units for each award are highlighted.

Communication and Presentation Level Two	
Units (All Level Two)	
1	Gathering, Organising and Processing Data
2	Drafting, Formatting and Presenting Information using DTP
3	Drafting, Formatting and Presenting Information using Presentation Software
4	Manipulating Graphic Images
5	Communication using Email and the Internet
6	Using ICT to Efficiently Organise and Handle Files
7	Using Word Processing Software
14	Using CAD/CAM Systems
15	Creating Electronic Music
17	Designing Web Pages
21	Using Video Capture Software
22	Using a Virtual Learning Environment (VLE)

Handling Data & Information Level Two	
Units (All Level Two)	
1	Gathering, Organising and Processing Data
6	Using ICT to Efficiently Organise and Handle Files
7	Using Word Processing Software
8	Manipulating Numeric Data Using Spreadsheets
9	Choosing and Using ICT Resources
10	Data Handling Using Databases
12	Data Logging
14	Using CAD/CAM Systems
15	Creating Electronic Music

Systems and Control Level Two	
Units (All Level Two)	
9	Choosing & Using ICT Resources
11	The use of Inputs, Outputs, Processing and Feedback in Control Systems
12	Data Logging
13	Simple programming and sequencing
14	CAD/CAM
15	Creating Electronic Music

Communication Technology Level Two	
Units (All Level Two)	
9	Choosing & Using ICT Resources
16	Understanding and Using Communication Networks
17	Designing Web Pages
18	Security, Health and Safety
19	Integrating Hardware Systems
20	Using Mobile Technologies
21	Using Video Capture Software
22	Using a Virtual Learning Environment