
**OCR ADVANCED SUBSIDIARY VOCATIONAL
CERTIFICATE OF EDUCATION IN INFORMATION AND
COMMUNICATION TECHNOLOGY (7746)**

**ADVANCED VOCATIONAL CERTIFICATE OF
EDUCATION IN INFORMATION AND
COMMUNICATION TECHNOLOGY (7766)**

**ADVANCED VOCATIONAL CERTIFICATE OF
EDUCATION (DOUBLE AWARD) IN INFORMATION
AND COMMUNICATION TECHNOLOGY (7786)**

Foreword

This pack contains OCR's Vocational Certificate of Education specifications for teaching from September 2000.

The first year of certification is 2001.

These specifications are approved by QCA, ACCAC and CCEA as National Advanced level qualifications.

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Specification Summary

UNIT TITLES

Unit	Title	Type of Assessment	Entry Code
1	Presenting information	Portfolio	7320
2	ICT serving organisations	External	7321
3	Spreadsheet design	Portfolio	7322
4	System installation and configuration	Portfolio	7323
5	Systems analysis	External	7324
6	Database design	Portfolio	7325
7	Internet services and web page design	Portfolio	7326
8	System architecture and hardware specification	Portfolio	7327
9	Impact of ICT on society	External	7328
10	Supporting ICT users	Portfolio	7329
11	Training ICT users	Portfolio	7330
12	ICT solutions for people with special needs	Portfolio	7331
13	Programming languages	Portfolio	7332
14	Structured program design methods	External	7333
15	Program production and testing	Portfolio	7334
16	Low-level programming	Portfolio	7335
17	Interactive multimedia products	Portfolio	7336
18	Computer artwork	Portfolio	7337
19	Publishing	Portfolio	7338
20	Numerical analysis using ICT	Portfolio	7339
21	Financial applications of ICT	Portfolio	7340
22	Mathematics and ICT	External	7341
23	Investigating communications and networks	External	7342
24	Using communications and network systems	Portfolio	7343
25	Data logging and control systems	Portfolio	7344
26	Knowledge-based systems	Portfolio	7345

RULES OF COMBINATION

Candidates may choose from the units listed in the table above according to the following rules of combination.

Note that the generic rule that a minimum of 33% of VCE assessment must be external does not apply to Information and Communication Technology.

Advanced Subsidiary Vocational Certificate of Education

Candidates for the **Advanced Subsidiary Vocational Certificate of Education** will study **three** units, all of which are mandatory and one of which is externally assessed.

Unit	Title	Type of Assessment
1	Presenting information	Portfolio
2	ICT serving organisations	External
3	Spreadsheet design	Portfolio

Advanced Vocational Certificate of Education

Candidates for the **Advanced Vocational Certificate of Education** will study **six** units, three of which are mandatory and three optional. **One** of the mandatory units is externally assessed. There is no requirement for any of the optional units to be externally assessed.

Block A	Block B
Unit 1: Presenting information	Optional units chosen from units 4 to 26
Unit 2: ICT serving organisations*	
Unit 3: Spreadsheet design	
Candidates take all	Candidates take three

* externally assessed

Advanced Vocational Certificate of Education (Double Award)

Candidates for the **Advanced Vocational Certificate of Education (Double Award)** will study **twelve** units, six of which are mandatory and six optional. **Two** of the mandatory units are externally assessed and QCA regulations require **at least one** of the optional units to be externally assessed.

Block A	Block B
Unit 1: Presenting information	Six optional units chosen from units 7 to 26. At least one unit must be externally assessed
Unit 2: ICT serving organisations*	
Unit 3: Spreadsheet design	
Unit 4: System installation and configuration	
Unit 5: Systems analysis*	
Unit 6: Database design	
Candidates take all	Candidates take six

* externally assessed

EXTERNAL ASSESSMENT

There are two assessment sessions each year, in January and June. Each unit will be available for assessment in both sessions.

Unit	Title	Type of Assessment	Length
2	ICT serving organisations	Written test	2 hours
5	Systems analysis	Written test	2 hours
9	Impact of ICT on society	Written test	2 hours
14	Structured program design methods	Written test	2 hours
22	Mathematics for ICT	Written test	2 hours
23	Investigating communications and networks	Written test	2 hours

1 Introduction

1.1 RATIONALE

These specifications lead to Vocational Certificates of Education (VCEs) in Information and Communication Technology (ICT) at Advanced level in the National Qualifications Framework. VCEs were formerly known as Advanced GNVQs. Candidates may enter for a subsidiary (three-unit), single (six-unit) or double (twelve-unit) award.

The specifications build upon the broad educational framework set out in the GNVQ Criteria of the Qualifications and Curriculum Authority, the Qualifications, Curriculum and Assessment Authority for Wales and the Northern Ireland Council for the Curriculum Examinations and Assessment. VCEs are broad based vocational qualifications designed to allow students flexible progression routes moving on to higher education or further training for employment.

These VCEs in Information and Communication Technology have been designed to form qualifications that provide knowledge and understanding of this vocational area. They are ideal qualifications for those students who want a broad background in information and communication technology that will allow them to progress to further or higher education or employment. They are designed to be delivered in full-time or part-time education.

The courses of study prescribed by these specifications can reasonably be undertaken by candidates entering this vocational area for the first time.

Provision is made for progression from three-unit to six-unit and twelve-unit awards. These qualifications are appropriate to the needs of candidates who want to progress to employment, further training or higher education.

The three-unit award offers an introduction to ICT which could support progression in a wide range of academic or vocational courses. A three-unit award enables students taking two or three A levels to complement these with a vocational course equivalent to one AS level. The six-unit award provides a stronger ICT emphasis for those who are seeking a solid grounding in a range of ICT-based activities. It provides an opportunity for students studying two A levels to complement this with a vocational course. Alternatively, it will complement other VCEs to give an ICT perspective on other vocational areas. The twelve-unit award is particularly appropriate for those wishing to progress to employment or to further studies in ICT within higher education.

The qualifications may be taken as a broad vocational introduction to information and communication technology or units may be selected to provide an introduction to specific vocational areas. These specifications support vocational pathways in ICT support, programming, networks and systems, using ICT to manipulate numeric information, and using ICT in creative industries.

The fundamental philosophy of these specifications is that, in order to understand the nature of information and communication technology, students should actively experience information and communication technology in context. This can be achieved through a variety of approaches including work experience, links with local employers, case studies and research.

The specifications are flexible, with a unit structure designed to allow for a variety of pathways.

Assessment is designed to give credit for what candidates can do as well as what they know. It is based both on portfolio evidence from assignments, set and assessed by the Centre and moderated by OCR, and external assessments, which are set and marked by OCR.

These specifications are supported by a range of professional institutes and higher education institutions.

1.2 CERTIFICATION TITLE

These qualifications will be shown on a certificate as:

OCR Advanced Subsidiary Vocational Certificate of Education in Information and Communication Technology.

OCR Advanced Vocational Certificate of Education in Information and Communication Technology.

OCR Advanced Vocational Certificate of Education (Double Award) in Information and Communication Technology.

1.3 LEVEL OF QUALIFICATION

These qualifications are approved by QCA as National Advanced level qualifications, which correspond to NVQ level 3.

The three-unit Advanced Subsidiary VCE qualification is broadly equivalent to an Advanced Subsidiary GCE award.

The six-unit Advanced VCE qualification is broadly equivalent to an Advanced GCE award.

The twelve-unit Advanced VCE (Double Award) qualification is broadly equivalent to two Advanced GCE awards.

1.4 SPECIFICATION AIMS

The aims of these specifications are to encourage candidates to:

- develop an understanding of the use of ICT in processing data in a variety of organisations;
- develop an understanding of the effects of the use of ICT on the data processing and communications systems within and between organisations and individuals;
- develop an understanding of the range of hardware and software tools that may be used to create an effective ICT system;
- understand the role of business within the local, national and international community;
- acquire the skills necessary to tailor application software to meet the needs of given situations and users;
- develop skills of analysis and design, and be systematic in the production of solutions with testing, evaluation and appropriate documentation;
- develop project and time management skills when producing solutions for a third party.

1.5 SPECIFICATION OBJECTIVES

Candidates for these qualifications will be expected to:

- demonstrate an ability to undertake the tasks required by the units;
- demonstrate knowledge and understanding of the content specified in the units;
- explain a range of issues related to the content of the units;
- make comparisons where appropriate;
- evaluate a range of issues relating to ICT, as described in the assessment objectives of the units.

1.6 RECOMMENDED PRIOR LEARNING

Students entering these courses should have achieved a general educational level equivalent to Intermediate level in the National Qualifications Framework, or Levels 7/8 of the National Curriculum. Skills in Numeracy/Mathematics, Literacy/English and Information and Communication Technology will be particularly relevant.

There is however no prior knowledge required for this specification.

Prior study of the Foundation and/or Intermediate GNVQ in Information and Communication Technology may be of benefit to some students, but it is not mandatory.

1.7 PROGRESSION

1.7.1 Progression into Employment

These specifications are designed to enable students to enter employment at trainee level within a wide range of information and communication technology contexts. Many such students would undertake further part-time study with the support of their employer.

1.7.2 Progression to Further Qualifications

Students who achieve these qualifications will be fully prepared to enter a variety of HND or degree level courses in information and communication technology or computing related subjects.

A three-unit Advanced Subsidiary VCE qualification may also be considered as broadly equivalent to an Advanced Subsidiary GCE award for the purposes of admission to a wide range of degree courses.

A six-unit Advanced VCE qualification may also be considered as equivalent to an Advanced GCE award for the purposes of admission to a wide range of degree courses.

A twelve-unit Advanced VCE (Double Award) qualification may also be considered as equivalent to two Advanced GCE awards for the purposes of admission to a wide range of degree courses.

1.8 RELATED QUALIFICATIONS

1.8.1 GCE/VCE

Units 1 to 6 have a significant overlap of content with the OCR GCE in Information and Communication Technology, although it is expected that the teaching and assessment methods will be significantly different.

1.8.2 Relationship to NVQs

This specification broadly introduces the student to skills relevant to a range of information and communication technology NVQs, though the assessment methods are not designed to guarantee occupational competence.

1.8.3 Relationship to Key Skills Qualification

A Grade E or above in a VCE in Information and Communication Technology, provides full exemption for the key skill of Information Technology at level 3 within the Key Skills Qualification.

1.8.4 Exclusions

Candidates who enter for any of these VCE specifications **may not** also enter for any other VCE specification with the certification title Information and Communication Technology in the same examination series.

Candidates who enter for these VCE specifications **may** however also enter for any GCE or GCSE specification with the certification title Information and Communication Technology in the same examination series. They may also enter for any NVQ.

1.9 SPIRITUAL, MORAL, ETHICAL, SOCIAL AND CULTURAL ISSUES

Information and Communication Technology offers a wide range of opportunities for the exploration of spiritual, moral, ethical, social and cultural issues.

These specifications include a range of interconnected themes that allow teachers and students to explore their implications. Students are encouraged to understand and discuss the implications of decisions that may influence communities, populations and individuals. Implicit in much of the work is the recognition that the growth of Information and Communication Technology often has moral, ethical and social parameters.

Candidates should show knowledge and an awareness that society is made up of individuals with a variety of opinions and needs. Candidates should be familiar with the concept that differing values and attitudes exist and they should reflect on these in relation to their own beliefs. They should be aware that differences in society may lead to conflicts of interest and these can be explored through Unit 9: *Impact of ICT on society* which explores the potential conflicts between developments in Information and Communication Technology and how it affects wider society. Unit 12: *ICT solutions for people with special needs* gives candidates the opportunity to investigate how ICT can be used to assist and improve people's lives.

It is hoped that candidates will gain a greater awareness of aspects of human life other than the physical or material. The concept of quality of life should be considered together with the social and cultural wealth of nations.

It is expected that these specifications will be presented in ways that give scope for perspectives on working practices and standards and confidentiality and ownership of data, which include ethical, moral and social dimensions.

1.10 ENVIRONMENTAL ISSUES

OCR has taken account of the 1988 Resolution of the Council of the European Community and the Report *Environmental Responsibility: An Agenda for Further and Higher Education*, 1993 in preparing these specifications and associated sample assessments.

1.11 THE EUROPEAN DIMENSION

OCR has taken account of the 1988 Resolution of the Council of the European Community in preparing these specifications and associated sample assessments. European examples should be used where appropriate in the delivery of the subject content. Relevant European legislation is identified within the specifications where applicable.

1.12 HEALTH AND SAFETY

Candidates should be introduced to health and safety issues addressed in the context of this sector and should be made aware of the significance of safe working practices.

1.13 STATUS IN WALES AND NORTHERN IRELAND

These specifications have been approved by ACCAC for use by Centres in Wales and by CCEA for use by Centres in Northern Ireland.

Candidates in Wales or Northern Ireland should not be disadvantaged by terms, legislation or aspects of government that are different from those in England. Where such situations might occur, including in the external assessment, the terms used have been selected as neutral, so that students may apply whatever is appropriate to their own situation. OCR will provide a glossary of equivalent legislation in Northern Ireland.

OCR will provide specifications, assessments and supporting documentation in English. Further information concerning the provision of assessment materials in Welsh and Irish may be obtained from the Product Development Team at OCR (telephone 01223 553103).

2 Scheme of Assessment

2.1 NATURE OF ASSESSMENT

The assessment will be conducted in accordance with the GNVQ Code of Practice. Assessment will be either internal, through a teacher-assessed portfolio (see Section 2.6) or through external assessments set and marked by OCR. All internal assessment will be subject to moderation by OCR.

2.2 UNIT TITLES

The following units are available for VCE awards, subject to the rules of combination in Section 2.3.

The content of each unit, together with detailed assessment evidence requirements, are described in Section 5.

Unit	Title	Type of Assessment	Entry Code
1	Presenting information	Portfolio	7320
2	ICT serving organisations	External	7321
3	Spreadsheet design	Portfolio	7322
4	System installation and configuration	Portfolio	7323
5	Systems analysis	External	7324
6	Database design	Portfolio	7325
7	Internet services and web page design	Portfolio	7326
8	System architecture and hardware specification	Portfolio	7327
9	Impact of ICT on society	External	7328
10	Supporting ICT users	Portfolio	7329
11	Training ICT users	Portfolio	7330
12	ICT solutions for people with special needs	Portfolio	7331
13	Programming languages	Portfolio	7332
14	Structured program design methods	External	7333
15	Program production and testing	Portfolio	7334
16	Low-level programming	Portfolio	7335
17	Interactive multimedia products	Portfolio	7336

18	Computer artwork	Portfolio	7337
19	Publishing	Portfolio	7338
20	Numerical analysis using ICT	Portfolio	7339
21	Financial applications of ICT	Portfolio	7340
22	Mathematics and ICT	External	7341
23	Investigating communications and networks	External	7342
24	Using communications and network systems	Portfolio	7343
25	Data logging and control systems	Portfolio	7344
26	Knowledge-based systems	Portfolio	7345

2.3 RULES OF COMBINATION

Depending upon their choice of award, candidates may choose from the units listed in the table in Section 2.2 according to the rules of combination given below. Centres should note that candidates must not be required to register for a twelve-unit award in order to have access to a six-unit or three-unit award in the same vocational area.

Note that the generic rule that a minimum of 33% of VCE assessment must be external does not apply to Information and Communication Technology.

2.3.1 Advanced Subsidiary Vocational Certificate of Education

Candidates for the **Advanced Subsidiary Vocational Certificate of Education** will study **three** units, all of which are mandatory and one of which is externally assessed.

Unit	Title	Type of Assessment
1	Presenting information	Portfolio
2	ICT serving organisations	External
3	Spreadsheet design	Portfolio

2.3.2 Advanced Vocational Certificate of Education

Candidates for the **Advanced Vocational Certificate of Education** will study **six** units, three of which are mandatory and three optional. **One** of the mandatory units is externally assessed. There is no requirement for any of the optional units to be externally assessed.

Block A	Block B
Unit 1: Presenting information	Optional units chosen from units 4-26
Unit 2: ICT serving organisations*	
Unit 3: Spreadsheet design	
Candidates take all	Candidates take three

* externally assessed

2.3.3 Advanced Vocational Certificate of Education (Double Award)

Candidates for the **Advanced Vocational Certificate of Education (Double Award)** will study **twelve** units, six of which are mandatory and six optional. **Two** of the mandatory units are externally assessed and QCA regulations require **at least one** of the optional units to be externally assessed.

Block A	Block B
Unit 1: Presenting information	Six optional units chosen from Units 7 to 26. At least one unit must be externally assessed
Unit 2: ICT serving organisations*	
Unit 3: Spreadsheet design	
Unit 4: System installation and configuration	
Unit 5: Systems analysis*	
Unit 6: Database design	
Candidates take all	Candidates take six

* externally assessed

2.4 VOCATIONAL PATHWAYS WITHIN THE DOUBLE AWARD

The following groups of optional units form coherent pathways and are particularly appropriate for teaching in combination, though there is no requirement to do so. Section 2.4.1 lists units that will support all pathways, whilst sections 2.4.2 to 2.4.6 list vocational pathways.

2.4.1 Generic

Unit	Title	Type of Assessment
7	Internet services and web page design	Portfolio
8	System architecture and hardware specification	Portfolio
9	Impact of ICT on society	External

2.4.2 ICT Support

Unit	Title	Type of Assessment
10	Supporting ICT users	Portfolio
11	Training ICT users	Portfolio
12	ICT solutions for people with special needs	Portfolio

2.4.3 Programming

Unit	Title	Type of Assessment
13	Programming languages	Portfolio
14	Structured program design methods	External
15	Program production and testing	Portfolio
16	Low-level programming	Portfolio

2.4.4 Using ICT in Creative Industries

Unit	Title	Type of Assessment
17	Interactive multimedia systems	Portfolio
18	Computer artwork	Portfolio
19	Publishing	Portfolio

2.4.5 Using ICT to Manipulate Numeric Information

Unit	Title	Type of Assessment
20	Numerical analysis using ICT	Portfolio
21	Financial applications using ICT	Portfolio
22	Mathematics and ICT	External

2.4.6 Networks and Systems

Unit	Title	Type of Assessment
23	Investigating communications and networks	External
24	Using communications and network systems	Portfolio
25	Data logging and control systems	Portfolio
26	Knowledge-based systems	Portfolio

2.5 SUGGESTIONS FOR TEACHING

Specific guidance for teaching each unit occurs within the guidance in Section 5.

Unit 1: *Presenting information* and Unit 2: *ICT serving organisations* form a suitable introduction to the course.

2.6 PORTFOLIO ASSESSMENT

2.6.1 Internal Assessment

Centres are required to carry out internal assessment of portfolios using the unit assessment grids in accordance with OCR procedures. OCR will provide Centres with forms on which to record their assessments.

The Centre must be able to verify that the work submitted by the candidate is the candidate's own work. This does not prevent groups of candidates working together in the initial stages, but it is important to ensure that the individual work of a candidate is clearly identified separately from that of any group in which they work.

Points will be awarded for the portfolio of work for each unit (see Section 2.9.1).

All portfolios must be internally standardised by the Centre prior to the submission of points to OCR.

2.6.2 Moderation

The portfolio is internally marked by the teacher and marking must be internally standardised by the Centre. Marks are then submitted to OCR by a specified date, after which moderation takes place in accordance with OCR procedures and the Code of Practice which will be revised to take account of the new specifications.

Detailed arrangements for moderation will be forwarded to Centres before the start of the course.

2.7 EXTERNAL ASSESSMENT

There are two assessment sessions each year, in January and June. Each unit will be available for assessment in both sessions.

Unit	Title	Type of Assessment	Length
2	ICT serving organisations	Written test	2 hours
5	Systems analysis	Written test	2 hours
9	Impact of ICT on society	Written test	2 hours
14	Structured program design methods	Written test	2 hours
22	Mathematics for ICT	Written test	2 hours
23	Investigating communications and networks	Written test	2 hours

OCR has designed external assessments which allow candidates to apply the knowledge and understanding they have gained from teacher-designed activities and assignments based on the 'What you need to learn' section of the units.

It should be emphasised, therefore, that unit delivery should not be focused on preparing candidates solely for the external assessment with the result that wider learning opportunities are missed. The external assessment forms only a small proportion of the sixty hours learning within the unit but the grade achieved through it is based on the VCE approach to learning which involves practical work, assignments and independent research.

Detailed arrangements for the administration of external assessment will be forwarded to Centres before the start of the course.

2.8 RE-SITS

Candidates will be permitted to re-sit each unit once only. Regulations regarding re-sits will be forwarded to Centres before the start of the course.

2.9 AWARDING AND REPORTING

2.9.1 UNIT GRADES

Each unit will be awarded a grade on a five point scale from A to E. The evidence required to support the award grades A, C and E is given in each detailed unit specification in Section 5.

Points for each unit will be awarded on a scale of 0-24, with 7-9 = E, 10-12 = D, 13-15 = C, 16-18 = B, 19-24 = A. Candidates who fail to achieve the standard for an E will be awarded points in the range 0-6.

2.9.2 Overall Grade

The points awarded for each unit will be aggregated and compared to pre-set boundaries.

Results for three and six-unit awards will be graded on a five point scale of A-E. Results for twelve-unit awards will generate two grades.

QCA, ACCAC and CCEA will develop a Code of Practice for awarding and reporting for the year 2000 in consultation with the VCE awarding bodies. OCR will comply with this Code of Practice.

2.10 SPECIAL ARRANGEMENTS

Candidates with special or individual needs may need to present forms of portfolio and externally assessed evidence appropriate to their needs. For these candidates, or those whose performance may be adversely affected through no fault of their own, teachers should consult the *Inter-Board Regulations and Guidance Booklet for Special Arrangements and Special Consideration*. The Awarding Bodies will update these regulations for the year 2000.

In such cases, advice should be sought from the OCR Special Requirements team (telephone 01223 552505) as early as possible during the course.

2.11 RESULTS ENQUIRIES AND APPEALS

Under certain circumstances, a Centre may wish to query the grade available to one or more candidates or to submit an appeal against the outcome of such an enquiry.

For procedures relating to enquiries on results and appeals, Centres should consult the Handbook for Centres and the document *Enquiries about Results and Appeals - Information and Guidance for Centres* produced by the Joint Council. Further copies of the most recent edition of this paper can be obtained from OCR.

3 Further Information and Training for Teachers

To support teachers using this specification, OCR will make the following materials and services available:

- a full programme of In-Service Training meetings arranged by its Training and Customer Support Division (telephone 01223 552950);
- a dedicated subject-specific telephone number (01223 553157);
- a website that will include materials to assist with delivery;
- teacher support material;
- exemplar student work;
- student guides;
- specimen assessments and assignments;
- past assessments and assignments;
- a report on the examination, compiled by senior examining personnel after each examination session;
- individual feedback to each Centre on the moderation of portfolios.

All publications may be obtained by fax from OCR's Publications department (fax 01223 552930).

The OCR website address is www.ocr.org.uk

The website contains copies of the specification, example assessments, support materials and current information of relevance to Centres.

4 Key Skills Guidance

Key Skills are central to successful employment and underpin future success in learning independently. Whilst they are certificated separately, the key skills guidance for this qualification has been designed to support the teaching, learning and assessment of the vocational content, as well as that of the key skills. Opportunities for developing the generic key skills of Communication and Application of Number are indicated within each unit. The key skill of Information Technology is developed throughout the course.

A Grade E or above in a VCE in Information and Communication Technology, provides full exemption for the key skill of Information Technology at Level 3 within the Key Skills Qualification.

The wider key skills of Working with Others, Problem Solving and Improving Own Learning and Performance should also be developed through the teaching programmes associated with the specification.

Key skills and vocational achievement are interdependent. This guidance has been developed to show how vocational and key skills achievement can be successfully combined. External moderation of the VCE will monitor this aspect of the qualification.

The guidance has been split into two sections: keys to attainment and signposts. The two sections should be used in conjunction with and are intended to complement each other.

Keys to attainment, where appropriate, are identified key skills or aspects of key skills that are central to vocational achievement. If a student has met the indicated vocational requirements of the unit, the specified key to attainment shows that the relevant aspect of the key skill has also been achieved. A key to attainment does not negate the need for students to develop and practise the key skill during teaching and learning.

Signposts are naturally occurring opportunities for the development of key skills during teaching, learning and assessment. Students will not necessarily achieve the signposted key skill through the related vocational evidence.

Aspects of key skills are distributed throughout the units, usually as signposts but sometimes as keys to attainment. This may appear repetitive, but occurs because some key skills may be achieved in several different ways (multiple signposts), but others are genuinely key to the achievement of the vocational aspect (keys to attainment). For example, N3.1 'Plan, and interpret information from **two** different types of sources, including a large data set', will appear more than once in any VCE because the key skill needs to be achieved in two different contexts. Another example of where a key skill may be split between units is IT3.1 'Plan, and use **different** sources to search for, and select, information required for two different purposes', because the two sources can be completely independent of each other.

The mandatory units in each VCE should allow students to cover the key skills, but there may be more opportunities in the optional units. Conversely, optional units may assume that students have already covered much of the key skills, but further opportunities exist to consolidate the key skills in the optional units.

The wider key skills of **working with others** (WO), **improving own learning and performance** (LP) and **problem solving** (PS) can make an effective contribution to candidate learning and performance. Opportunities exist for candidates to develop vocational and key skills alongside each other and generate valid evidence for assessment.

Improving own learning and performance has been explicitly signposted in certain units within the qualification. However, it is strongly recommended that the learning for, and the application of, this skill be used to underpin all candidates' vocational work at qualification level. It is anticipated that evidence of this skill will be drawn from the whole qualification and its application will be seen within and between each unit.

The skill of **working with others** requires candidates to work with an individual as well as within a team. In units where co-operative and collaborative working is required individual learning programmes will be expected to signpost the most appropriate approach i.e. whether it is one-to-one or group work, though sometimes both could be appropriate.

Problem solving also requires a specific approach to learning and evidence generation. Candidates are required to show how they have bridged the gap between current and desired solutions. In normal circumstances a learning programme will not be seen as a 'problem' as at this level activities are clearly mapped out. Problem solving is most appropriate to those units offering candidates greater autonomy and freedom.

Below is a map of the Key Skills found in the **VCE in Information and Communication Technology**

K = Keys to attainment

S = signposts

Key Skill Ref	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
C3.1a				S			S		S	S	K	S					S	S	S	S						S	
C3.1b	S																										
C3.2	S	K		K			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		S	S	S	S	S
C3.3	K	K	K	K	S	S	S		K	K	K	K	K		K	K	K	K	K					K	K	K	K
N3.1			K																			S					
N3.2			K									S				K		S	S			S					
N3.3			K																			S	S				

Below is a map of the Key Skills found in the **VCE in Information and Communication Technology**

K = Keys to attainment

S = signposts

Key Skill Ref	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
LP3.1		S			S	S	S		S			S	S			S	S	S		S	S	S	S	S	S	S
LP3.2		S			S	S	S		S			S	S			S	S	S		S	S	S	S	S	S	S
LP3.3		S			S	S	S		S			S	S			S	S	S		S	S	S	S	S	S	S
PS3.1			K	S	S	S	S	S		S		S			S	S	S	S							S	
PS3.2			K	S	S	S	S	S		S		S			S	S	S	S							S	
PS3.3			K	S	S	S	S	S		S		S			S	S	S	S							S	
WO3.1	S	S	K	S		S	S	S		S	S			S	S			S	S					S		
WO3.2	S	S	K	S		S	S	S		S	S			S	S			S	S					S		
WO3.3	S	S	K	S		S	S	S		S	S			S	S			S	S					S		

5 Specification Units

All units have the following sections:

About this unit	<p>This summarises the unit’s main focus and identifies links with other units in the VCE and with NVQs.</p> <p>It states whether the unit is assessed externally or through portfolio evidence.</p>
What you need to learn	<p>This specifies the underpinning knowledge, skills and understanding students need to apply in order to meet the requirements of the portfolio evidence or external assessment.</p>
Assessment evidence	<p>This specifies the evidence students need to produce in order to meet the requirements of the unit. It is divided into the following parts:</p> <ol style="list-style-type: none">1. ‘You need to produce’ – this banner heading sets the context for providing the evidence, e.g. a report, an investigation, etc;2. ‘To achieve a grade E...’ – this describes the quality and scope of the evidence needed for students to achieve the unit;3. ‘To achieve the higher grades you must also...’ – this defines the qualities and scope of the evidence needed to achieve these grades.
Guidance for teachers	<p>This provides advice on teaching and assessment strategies. It identifies links between units and any opportunities for integrated teaching, learning and assessment.</p> <p>There may also be advice on:</p> <ul style="list-style-type: none">• ways to emphasise the vocational context of the unit;• exploiting local opportunities (e.g. information sources, events, work experience);• resources;• evidence requirements;• interpreting assessment criteria.
Key Skills guidance	<p>This signposts opportunities for developing and assessing Key Skills within the unit.</p>