

# Specification

## BTEC ICT Courses

Edexcel Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF)

Edexcel Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF)

Edexcel Level 2 BTEC Diploma in ICT Systems and Principles for Apprentices (QCF)

November 2009

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

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

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Authorised by Roger Beard  
Prepared by Dave Evans

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## Qualification titles covered by this specification

Edexcel Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF)

Edexcel Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF)

Edexcel Level 3 BTEC Diploma in ICT Systems and Principles for Apprentices (QCF)

These qualifications have been accredited to the Qualifications and Credit Framework (QCF) and are eligible for public funding as determined by the Department for Children, Schools and Families (DCSF) under Sections 96 and 97 of the Learning and Skills Act 2000.

The qualification titles listed above feature in the funding lists published annually by the DCSF and which are available on their website [www.dcsf.gov.uk](http://www.dcsf.gov.uk). The QCF Qualifications Accreditation Number (QAN), should be used by centres when they wish to seek public funding for their learners. Each unit within a qualification will also have a QCF unit code.

The QCF qualification and unit codes will appear on the learners' final certification documentation.

The QANs for the qualifications in this publication are:

Edexcel Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF) 500/3473/X

Edexcel Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF) 500/3470/4

Edexcel Level 3 BTEC Diploma in ICT Systems and Principles for Apprentices (QCF) 500/6518/X

These qualification titles will appear on the learners' certificates. Learners need to be made aware of this when they are recruited by the centre and registered with Edexcel.

### **Apprenticeship/Advanced Apprenticeship for IT and Telecoms professionals (Framework Code 360)**

These qualifications have been approved as the knowledge based element of the Apprenticeship/Advanced Apprenticeship for IT and Telecoms Professionals (QCF).

# What are BTEC Level 1-3 Short Course qualifications?

BTEC QCF Level 1-3 Short Course qualifications are designed to provide specialist work-related qualifications in a range of sectors. They give learners the knowledge, understanding and skills that they need to prepare for employment. The qualifications also provide career development opportunities for those already in work.

BTEC short courses also provide much of the underpinning knowledge and understanding for the National Occupational Standards for the sector, where these are appropriate. They are supported by the relevant Standards Setting Body (SSB) or Sector Skills Council (SSC).

On successful completion of a BTEC short course qualification, learners can progress to or within employment and/or continue their study in the same, or related vocational area.

## **Edexcel Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF) (18 credits)**

The aims of this qualification are to:

- enable learners to acquire the knowledge and understanding required for employment/career progression in the IT/telecoms sector
- contribute knowledge and understanding towards the related Level 2 Diploma in Professional Competence.

## **Edexcel Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF) (24 credits) and the Level 3 BTEC Diploma in ICT Systems and Principles for Apprentices (QCF) (45 credits)**

The aims of these qualifications are to:

- meet the need of learners who work or want to work in the IT or telecoms industries
- provide progression from the Edexcel Level 2 BTEC Certificate/Diploma in ICT Systems and Principles for Apprentices
- allow learners to acquire the knowledge and understanding required for employment/career progression in the IT/telecoms sector
- contribute knowledge and understanding towards the related Level 3 BTEC Diploma in ICT Professional Competence.

## **IT and Telecoms Apprenticeship/Advanced Apprenticeships**

QCF IT and Telecoms apprenticeship programmes consist of three components:

- a knowledge based element
- a competence based element
- key skills and Functional Skills.

### **Knowledge-based element**

The knowledge-based element provides apprentices with the underpinning knowledge and understanding of ICT systems and principles that they need to be successful as an IT or telecoms professional.

### **Competence-based element**

The competence-based element develops the skills and competence required to be an IT or telecoms professional.

### **Key skills or Functional Skills**

The key or Functional Skills element ensures that apprentices have the numeracy and literacy skills they need to function effectively in the workplace.

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## Structure of the IT and Telecoms Apprenticeship

Knowledge-based element	Competence-based element	Key Skills or Functional Skills
Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF) (QAN 5003473)	Level 2 BTEC Diploma in ICT Professional Competence (QCF) (QAN 50034728)	Level 1 Application of Number Key Skill or Level 1 Functional Maths and Level 1 Communication Key Skill or Level 1 Functional English

## Structure of the IT and Telecoms Advanced Apprenticeship

Knowledge-based element	Competence-based element	Key Skills or Functional Skills
Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF) (QAN 50034704) or Level 3 BTEC Diploma in ICT Systems and Principles for Apprentices (QCF) (QAN 5006518)	Level 3 BTEC Diploma in ICT Professional Competence (QCF) (QAN 50034716)	Level 2 Application of Number Key Skill or Level 2 Functional Maths and Level 2 Communication Key Skill or Level 2 Functional English

All learners studying the Apprenticeship/Advanced Apprenticeship must be employed. Learners on the Apprenticeship in England can follow a programme-led approach, with prior agreement from e-skills UK. Those apprentices undertaking Foundation Modern Apprenticeships in Wales and Traineeships in Northern Ireland should be in full-time employment.

There is no national minimum entry or previous experience requirements for Apprenticeship or Advanced Apprenticeships.

The duration of an apprenticeship will vary depending on the intensity of training activity and prior experience. A typical duration for an Apprenticeship is between 18 and 24 months. A typical duration for an Advanced Apprenticeship is between 24 and 36 months.

For further information about the ICT Apprenticeship/Advanced Apprenticeship for ICT professionals refer to e-skills UK.



# Rules of combination

The rules of combination specify the credits that need to be achieved, through the completion of particular units, for the qualification to be awarded. All accredited qualifications within the QCF have a set of rules of combination.

The rules of combination specify:

- the number of credits required at all levels to achieve the qualification
- the credits to be achieved at the level of the qualification or above
- credits from mandatory units, where relevant
- credits from optional units, where relevant
- credits from other units
- credits from equivalent units
- exemptions
- time limits on the process of credit accumulation or exemptions.

## **Edexcel Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF)**

- 1 Qualification credit value: a minimum of 18 credits.
- 2 Minimum credit to be achieved at, or above, the level of the qualification: 11 credits.
- 3 All credits must be achieved from the units listed in this specification.

## **Edexcel Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices (QCF)**

- 1 Qualification credit value: a minimum of 24 credits.
- 2 Minimum credit to be achieved at, or above, the level of the qualification: 15 credits.
- 3 All credits must be achieved from the units listed in this specification.

## **Edexcel Level 3 BTEC Diploma in ICT Systems and Principles for Apprentices (QCF)**

- 1 Qualification credit value: a minimum of 45 credits.
- 2 Minimum credit to be achieved at, or above, the level of the qualification: 31 credits.
- 3 All credits must be achieved from the units listed in this specification.

## Edexcel Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices

The Edexcel Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices is an 18-credit and 120 guided learning hour (GLH) qualification that consists of 11 optional units. 11 credits must be at Level 2 or above.

Edexcel Level 2 BTEC Certificate in ICT Systems and Principles for Apprentices				
Unit	Optional units	Credit	Level	Unit reference
201	Introduction to Computer Systems	9	2	R/501/2723
202	An Introduction to Telephony Systems	9	2	D/600/4036
203	An Introduction to Communication Technologies	9	2	Y/600/4035
204	Security of ICT Systems	5	2	F/502/4141
205	ICT Project	9	2	J/501/2749
206	Using ICT to Present Information	9	2	A/502/4140
317	Manage BOWMAN Equipment	19	3	K/502/0133
318	Operate BOWMAN Equipment	9	3	M/502/0134
319	Manage BOWMAN Signal Training	3	3	T/502/0135
320	Principles of BOWMAN Digitization	1	3	A/502/0136
321	Supervise BOWMAN Equipment	14	3	F/502/0137

The BOWMAN Units are restricted access and are for MOD use only.

### BOWMAN Units

Unit 1 subsumes Units 4 and 5. Essentially Unit 5 is the same as Unit 1, except that some of the aspects of electronic warfare have been removed.

For learners not wanting to cover specific aspects of BOWMAN, Unit 4 gives an overview of how the BOWMAN system works.

## Edexcel Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices

The Edexcel Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices is a 24-credit and 150 guided learning hour (GLH) qualification that consists of 23 optional units. At least 15 credits must be at Level 3 or above.

Edexcel Level 3 BTEC Certificate in ICT Systems and Principles for Apprentices				
Unit	Optional units	Credit	Level	Unit reference
203	Using ICT to Present Information	9	2	A/502/4140
204	Security of ICT Systems	5	2	F/502/4141
301	Computer Systems	9	3	F/501/4273
302	Computer Architecture	9	3	D/501/4278
303	Telecommunications Principles	9	3	L/501/4275
304	Communication Technologies	9	3	J/501/4274
305	Telephony Voice Systems Operation	9	3	T/501/9938
306	Principles of Computer Networks	9	3	T/501/3590
307	Core Network Techniques	9	3	T/502/3410
308	Network Management	9	3	Y/501/4277
309	Networked Systems Security	9	3	H/501/4279
310	Maintaining Computer Systems	9	3	T/501/4268
311	Communications Equipment Installation Techniques	9	3	A/502/3411
312	Fault Diagnosis and Maintenance of Communications Equipment	9	3	J/502/3041
313	ICT Project	15	3	F/501/3589
314	Communications for Technicians	9	3	Y/501/4280
315	Impact of the use of IT on Business Systems	9	3	R/501/4276
316	Health, Safety, Risk Assessment and Welfare in the Workplace	9	3	D/501/4281
317	Manage BOWMAN equipment	19	3	K/502/0133
318	Operate BOWMAN equipment	9	3	M/502/0134
319	Manage BOWMAN signal training	3	3	T/502/0135
320	Principles of BOWMAN digitization	1	3	A/502/0136
321	Supervise BOWMAN equipment	14	3	F/502/0137

The BOWMAN Units are restricted access and are for MOD use only.

## Edexcel Level 3 BTEC Diploma in ICT Systems and Principles for Apprentices

The Edexcel Level 3 BTEC Diploma in ICT Systems and Principles for Apprentices is a minimum 45-credit and 320 guided learning hour (GLH) qualification that consists of 23 optional units. At least 31 credits must be at Level 3 or above.

Edexcel Level 3 BTEC Diploma in ICT Systems and Principles for Apprentices				
Unit	Optional units	Credit	Level	Unit reference
203	Using ICT to Present Information	9	2	A/502/4140
204	Security of ICT Systems	5	2	F/502/4141
301	Computer Systems	9	3	F/501/4273
302	Computer Architecture	9	3	D/501/4278
303	Telecommunications Principles	9	3	L/501/4275
304	Communication Technologies	9	3	J/501/4274
305	Telephony Voice Systems Operation	9	3	T/501/9938
306	Principles of Computer Networks	9	3	T/501/3590
307	Core Network Techniques	9	3	T/502/3410
308	Network Management	9	3	Y/501/4277
309	Networked Systems Security	9	3	H/501/4279
310	Maintaining Computer Systems	9	3	T/501/4268
311	Communications Equipment Installation Techniques	9	3	A/502/3411
312	Fault Diagnosis and Maintenance of Communications Equipment	9	3	J/502/3041
313	ICT Project	15	3	F/501/3589
314	Communications for Technicians	9	3	Y/501/4280
315	Impact of the use of IT on Business Systems	9	3	R/501/4276
316	Health, Safety, Risk Assessment and Welfare in the Workplace	9	3	D/501/4281
317	Manage BOWMAN equipment	19	3	K/502/0133
318	Operate BOWMAN equipment	9	3	M/502/0134
319	Manage BOWMAN signal training	3	3	T/502/0135
320	Principles of BOWMAN digitization	1	3	A/502/0136
321	Supervise BOWMAN equipment	14	3	F/502/0137

The BOWMAN Units are restricted access and are for MOD use only.

## **Assessment and grading**

The assessment for these Edexcel BTEC Level 2 and Level 3 qualifications is criterion referenced, based on the achievement of specified assessment criteria.

All units are internally assessed. Centre assessment will be externally verified through the National Standards Sampling process.

The overall grading for the Edexcel BTEC qualifications in ICT Systems and Principles for Apprentices is a pass, based upon the successful completion of the minimum credit. Learners must achieve the required minimum credit from the combination and choice of optional units specified to achieve these Edexcel BTEC qualifications in ICT Systems and Principles for Apprentices.

The purpose of assessment is to ensure that effective learning of the content of each unit has taken place.

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# Quality assurance

Edexcel's qualification specifications clearly set out the standard to be achieved by each learner in order to achieve the award of the qualification. This is given in the statement of learning outcomes and assessment criteria in each unit. Edexcel operates a quality assurance process, which is designed to ensure that these standards are maintained by all assessors and verifiers. It achieves this through the following activities.

## Internal verification

Centres are required to have processes in place that ensure that each assessor correctly interprets and applies the standards set out in the specification. Choice and application of an appropriate system is a matter for individual centres. Edexcel fully supports the use of the centre's own quality assurance systems where this ensures robust internal standardisation.

## External verification

Edexcel will sample assessors' decisions using subject-specialist external verifiers. The external verifier assigned to the centre will identify, through negotiation with the programme coordinator, the unit (or units) which will be subject to NSS. Centres will be required to make available work produced by four learners which provides evidence for the assessment (in whole or in part) of the identified unit (or units). The assignment brief (or briefs) on which the work is based must have been internally verified. The learner work **must** have been internally assessed and at least 50 per cent of it **must** have been internally verified.

## Risk assessment

Edexcel has a centre risk assessment process which creates a quality profile of each qualification programme in each centre and for the centre as a whole. This profile contributes to the determination of the nature of external verification activity for each programme and will also be used to initiate other quality control measures by Edexcel.

## Approval

Where a centre already has approval for a programme that is being replaced by a new programme, the centre will be given 'accelerated approval' for the new programme. Other centres wishing to offer a programme in a vocational area for the first time will need to apply for approval to offer the programme.

Centres that have not previously offered any BTEC qualifications will first need to apply for, and be granted, centre approval.

When a centre applies for approval to offer a BTEC qualification they will be required to enter into an approvals contract.

The approvals contract is a formal commitment by the head or principal of a centre to meet all the requirements of the specification and linked codes or regulations. Sanctions and tariffs will be applied if centres do not comply with the contract. This could ultimately result in the suspension of certification or withdrawal of approval.

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# Access and recruitment

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

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

Centres are required to recruit learners to BTEC qualifications with integrity. This will include ensuring that applicants have appropriate information and advice about the qualifications and that the qualification will meet their needs. Centres should take appropriate steps to assess each applicant's potential and make a professional judgement about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the learner within the centre during their programme of study and any specific support that might be necessary to allow the learner to access the assessment for the qualification. Centres should consult Edexcel's policy on learners with particular requirements.

Centres will need to review the entry profile of qualifications and/or experience held by applicants, considering whether this profile shows an ability to progress to a higher level qualification.

## Restrictions on learner entry

The Edexcel BTEC (QCF) qualifications in ICT Systems and Principles for Apprentices/Advanced Apprentices are accredited on the QCF for learners aged 16 and above.

## Access arrangements and special considerations

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

Further details are given in the policy document *Access Arrangements and Special Considerations for BTEC and Edexcel NVQ Qualifications*, which can be found on the Edexcel website ([www.edexcel.com](http://www.edexcel.com)). This policy replaces the previous Edexcel policy (*Assessment of Vocationally Related Qualification: Regulations and Guidance Relating to Learners with Special Requirements, 2002*) concerning learners with particular requirements.



## **Recognition of Prior Learning**

Recognition of Prior Learning (RPL) is a method of assessment (leading to the award of credit) that considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and so do not need to develop through a course of learning.

Edexcel encourages centres to recognise learners' previous achievements and experiences whether at work, home and at leisure, as well as in the classroom. RPL provides a route for the recognition of the achievements resulting from continuous learning.

RPL enables recognition of achievement from a range of activities using any valid assessment methodology. Provided that the assessment requirements of a given unit or qualification have been met, the use of RPL is acceptable for accrediting a unit, units or a whole qualification. Evidence of learning must be sufficient, reliable and valid.

## **Unit format**

All units in the Edexcel BTEC (QCF) qualifications have a standard format. The unit format is designed to give guidance on the requirements of the qualification for learners, tutors, assessors and those responsible for monitoring national standards.

Each unit has the following sections.

### **Unit title**

The unit title is accredited on the QCF and this form of words will appear on the learner's Notification of Performance (NOP).

### **QCF level**

All units and qualifications within the QCF will have a level assigned to them, which represents the level of achievement. There are nine levels of achievement, from Entry Level to Level 8. The level of the unit has been informed by the QCF level descriptors and, where appropriate, the NOS and/or other sector/professional benchmarks.

### **Credit value**

All units have a credit value. The minimum credit value that may be determined for a unit is one, and credits can only be awarded in whole numbers. Learners will be awarded credits for the successful completion of whole units.

### **Learning outcome**

A statement of what learners should know or what they should be able to do.

### **Assessment criteria**

What the learner has to achieve in order to meet the learning outcomes.

## Further information

For further information please call Customer Services on 0844 576 0026 (calls may be recorded for training purposes) or visit our website ([www.edexcel.com](http://www.edexcel.com)).

## Useful publications

Related information and publications include:

- Functional Skills publications - specifications, tutor support materials and question papers
- *Regulatory arrangements for the Qualification and Credit Framework (published by Ofqual) August 2008*
- the current Edexcel publications catalogue and update catalogue.
- Edexcel publications concerning the Quality Assurance System and the internal and external verification of vocationally related programmes can be found on the Edexcel website and in the Edexcel publications catalogue.

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

### How to obtain National Occupational Standards

e-skills UK  
1 Castle Lane  
London SW1E 6DR

Telephone: 0207 963 8920  
Fax: 0207 592 9138  
Email: [info@e-skills.com](mailto:info@e-skills.com)

# Professional development and training

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

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

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

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

Our customer service numbers are:

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

Calls may be recorded for training purposes.

The training we provide:

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

Our training is underpinned by the LLUK standards for those preparing to teach and for those seeking evidence for their continuing professional development.

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For more information on Edexcel and BTEC qualifications  
please visit our website: [www.edexcel.com](http://www.edexcel.com)

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