



The Royal Academy  
of Engineering



Academy  
of Computing

next  
gen. SKILLS

# Computing qualifications included in the 2014 Key Stage 4 Performance Tables: a guide for schools

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# Introduction

The teaching of Computing in schools has moved centre stage over the past few months.

On 13th January 2012, the Royal Society published the *Shut Down or Restart?* report<sup>1</sup>, continuing a discussion on computing in schools begun in the earlier Livingstone Hope *Next Gen* report<sup>2</sup>. Chaired by Professor Steve Furber, a fellow of both the Royal Academy of Engineering and the Royal Society, *Shut Down or Restart?* makes it clear that the current ICT curriculum in the English National Curriculum can encourage a pedestrian approach that overemphasizes mundane learning about tools such as word processors and does not do enough to promote the acquisition of the broader computing knowledge and rigorous engineering skills that would keep Britain at the forefront of a global digital economy.

In the same week, the Secretary of State for Education, Michael Gove, announced far-reaching changes to the ICT national curriculum including a proposal to withdraw the programme of study for ICT from the National Curriculum in England.

The Royal Academy of Engineering believes that every young person should have the opportunity to experience and learn real Computing from ages 5 to 19 in the same way that they experience Mathematics or Science. Computing is that important.

This guide, produced by the Royal Academy of Engineering in association with the BCS Academy of Computing, the Computing at School working group (CAS) and Next Gen Skills is designed to help schools make sense of the sometimes confusing landscape of computing qualifications.

In these pages, we have identified the Level 2 (GCSE and equivalent) qualifications that are publically funded for 14–16 year olds in England and which are included in the 2014 Key Stage 4 Performance Tables. We have then determined the broad purpose of each one by classifying the individual units in each qualification as:

- Digital Literacy
- Information Technology (IT)

- Computer Science

We believe that effective learning of all three is useful to young people – but they are different. Critically, we believe that only IT and Computer Science learning outcomes provide for progression in Computing. Therefore schools should think very carefully about the purpose of the Computing qualifications they offer at Key Stage 4 to ensure that they are appropriate for individual learners. The potential for synergy with other subjects taken, including the creative subjects such as Art and Design, should be taken into consideration.

This guide provides the detailed analysis of qualifications that are most likely to be popular with schools because they will count in school Performance Tables from 2014. They are not necessarily the most appropriate qualifications in every case and schools should take a wider view of the qualifications on offer if they do not find what they need in these pages. The Royal Academy of Engineering FE STEM Data project<sup>3,4</sup> identified 40 Level 2 publically funded Computing qualifications being used in schools in England in 2009/10. There are also a number of vendor qualifications provided commercially. The right of individual schools to choose what is best for their learners is acknowledged and respected.

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1 *Shut Down or Restart?* report, <http://royalsociety.org/education/policy/computing-in-schools/report/>

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2 *Next Gen* report, [http://www.nesta.org.uk/home1/assets/features/next\\_gen](http://www.nesta.org.uk/home1/assets/features/next_gen)

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3 Andy Frost, Clive Greatorex, Matthew Harrison, David Mason (2010), *FE and Skills STEM Data Summary report, October 2010, Blue Alumni / Royal Academy of Engineering* [www.thedataservice.org.uk/statistics/other\\_statistics\\_and\\_research](http://www.thedataservice.org.uk/statistics/other_statistics_and_research)

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4 Matthew Harrison (2011), *FE STEM Data Project July 2011 report, Royal Academy of Engineering* [www.thedataservice.org.uk/statistics/other\\_statistics\\_and\\_research](http://www.thedataservice.org.uk/statistics/other_statistics_and_research)



# The qualifications

## The qualifications considered

This guide focuses on Level 2 qualifications (those broadly equivalent to A\*-C grades GCSE) because this is the level for a 16 year old that provides options for further progression in computing. There is a wider pool of Level 1 and Level 3 qualifications available to 14–16 year olds which is referenced above but not considered further here.

Referring to the *Register of Regulated Qualifications* and to the lists of compliant Level 2 qualifications published in March 2012 by the Department for Education<sup>3</sup>, for the case of computing qualifications this amounts to (not including Level 1 courses, IGCSEs or Level 3 courses):

- 8 qualifications that will count in the 2013 performance tables
- 27 qualifications that will count the 2014 performance tables

## Classification of Computing qualifications

The *Shut down or Re-start* report into computing in schools published by the Royal Society in 2012 made a distinction

<sup>3</sup> Department for Education, key stage 4 performance tables: inclusion of 14–16 qualifications in 2014 – final version (March 2012)

between classes of computing qualifications. The classifications adopted were: digital literacy, IT and Computer Science.

*“Digital literacy should be understood to mean the basic skill or ability to use a computer confidently, safely and effectively, including: the ability to use office software such as word processors, email and presentation software, the ability to create and edit images, audio and video, and the ability to use a web browser and internet search engines. These are the skills that teachers of other subjects at secondary school should be able to assume that their pupils have, as an analogue of being able to read and write.”*

Source: *Shutdown or Restart*, The Royal Society, 2012

Whilst classification of qualifications that contain aspects of digital literacy is relatively straightforward, the definitions of IT and Computer Science are not so sharply defined. Therefore, the classifications used by the *Computing at Schools* group (which build on those of the Royal Society) have been used here.

The Royal Academy of Engineering believes that schools should distinguish between those computing qualifications offered to 14-16 year olds that are concerned with digital literacy and those that are concerned with IT or with Computer Science because qualifications principally concerned with digital literacy do not provide for progression in Computing.

INFORMATION TECHNOLOGY	COMPUTER SCIENCE
How computer systems are used	How computer systems work
People are central to the subject	Computation is central to the subject
Concerned with the development of IT systems, with particular emphasis on the effects on end users	Concerned with algorithmic thinking, and the ways in which a real-world problem can be decomposed in order to construct a working solution
Focuses on building a business/application solution mainly by using a combination of currently available software	Develops new systems by writing new software.
Emphasis on choosing and evaluating, appropriate software	Emphasis on principles and techniques for building new software (or hardware). Programming is a central technique.
Information Technology supports human activity	Computation is a 'lens' through which we can understand the natural world, and the nature of thought itself, in a new way.
Tending towards applied/vocational	Tending towards academic

Source: *A curriculum framework for Computer Science and Information Technology, Computing at School, March 2012*

The Royal Academy of Engineering has used the Royal Society and Computing at School definitions above to provide a classification of 27 computing qualifications principally according to the titles of the units in each qualification. In cases of ambiguity the individual assessment criteria stated for a unit have been inspected. The assessment criteria are frequently (but not always) listed for each unit on the Register of Regulated Qualifications website (<http://register.ofqual.gov.uk>).

The work is made more complex as many qualifications offer a mix of mandatory and optional units. It turns out that many are a mix of digital literacy, IT and Computer Science in both the mandatory and optional units.

Noting the complexities involved, using these definitions to classify according to unit title, the 27 qualifications can be classified as follows:

Of the 8 qualifications that will count in the 2013 performance tables (not including Level 1 courses, IGCSEs or Level 3 courses)

- 4 are a mix of IT and Digital Literacy
- 2 are devoted to Computer Science
- 1 is a mix of IT and Computer Science
- 1 is devoted to IT

All but one are standard GCSEs.

**Of the 27 qualifications that will count the 2014 performance tables** (not including Level 1 courses, IGCSEs or Level 3 courses)

- 11 are a mix of IT and Digital Literacy
- 10 are a mix of IT, Computer Science and (often) Digital Literacy
- 3 are devoted to Computer Science
- 2 are devoted to Digital Literacy
- 1 is devoted to IT

6 are GCSE qualifications. 5 include Computer Science. Most are a mix of IT and digital literacy.

The 27 qualifications are grouped according to size and classified according to the colour coding:

Digital literacy

IT

Computer Science

A detailed initial classification of individual units is given in Annex A.



# Classification

## Size of 1+ GCSE (15 qualifications)

### AQA GCSE Computer Science

120 GLH

Mandatory units: **Computer Science**

### AQA GCSE ICT

120 GLH

Mandatory units: **IT** and **Digital Literacy**

### BCS Level 2 Certificate in IT User Skills (ITQ) (QCF)

**500/6175/6**

110–125 GLH Mandatory Units

Mandatory units: **IT**

Optional units: **IT** and **Digital Literacy**

### BCS Level 2 Certificate in IT User Skills (ECDL Extra) (ITQ) (QCF) 500/6242/6

120 GLH

Mandatory units: 1 **IT** and 3 **Digital Literacy**

Optional units: none

### City & Guilds Level 2 Certificate for IT Users (ITQ) (QCF)

**500/6724/2**

120 GLH

Mandatory units: **IT**

Optional units: **IT** and **Digital Literacy**

### City & Guilds Level 2 Diploma for Software Developers

**500/1729/9**

120 GLH

Mandatory units: **Computer Science**

Optional units: **Computer Science**

Edexcel GCSE ICT single award

120 GLH

Mandatory units: **IT** and **Digital Literacy**

### Edexcel Level 2 Certificate in Digital Applications for IT Users 100/5326/8

180 GLH

Mandatory units: **Digital Literacy**

Optional units: **Digital Literacy** and **IT** and **Computer Science**

### IAM Level 2 Certificate in IT User Skills (ITQ) (QCF)\*

**501/1613/7**

120 GLH

Mandatory units: **IT**

Optional units: **IT** and **Digital Literacy**

### OCR Level 2 Certificate in IT User Skills (ITQ) (QCF)

**500/6743/6**

120 GLH

Mandatory units: **IT**

Optional units: **IT** and **Digital Literacy**

### OCR Level 1/2 Cambridge National Certificate in ICT\*

**600/4776/8**

120 GLH

Mandatory units: **IT**

Optional units: **IT** and **Digital Literacy** and **Computer Science**

### OCR GCSE Computing - J275

120 GLH

Mandatory units: **Computer Science**

### OCR GCSE ICT

120 GLH

Mandatory units: **IT** and **Computer Science**

### TLM Level 2 Certificate in IT User Skills in Open Systems and Enterprise (ITQ) 500/8073/8

120 GLH

Mandatory units: **IT**

Optional units: **IT** and **Digital Literacy**

### WJEC GCSE ICT (single award and short course)

120 GLH

Mandatory units: **IT** and **Digital Literacy**

### Size of 2+ GCSEs (9 qualifications)

#### City & Guilds Level 2 Diploma in ICT Systems and Principles for IT Professionals (QCF) 501/1859/6

Product code

220 GLH

Mandatory units: IT

Optional units: IT and Digital Literacy and Computer Science

#### City & Guilds Level 2 Diploma for IT Users (ITQ) (QCF) 500/6760/6

275 GLH

Mandatory units: IT

Optional units: IT and Digital Literacy

#### Edexcel BTEC Level 2 Extended Certificate in IT (QCF) 500/9550/X

180 GLH

Mandatory units: IT

Optional units: IT and Digital Literacy and Computer Science

#### Edexcel Level 2 Certificate in Digital Applications for IT Users 100/5326/8

180 GLH

Mandatory units: IT

Optional units: IT and Computer Science

#### Edexcel GCSE ICT double award

240 GLH

Mandatory units: IT and Digital Literacy

#### Edexcel Level 2 Extended Certificate in Digital Applications for IT Users 100/6442/4

270 GLH

Mandatory units: Digital Literacy

Optional units: Digital Literacy IT and Computer Science

#### OCR Level 2 Certificate for Creative iMedia (QCF) 500/8529/3

180 GLH

Mandatory units: Digital Literacy

Optional units: Digital Literacy

#### OCR Level 2 Diploma for Creative iMedia (QCF) 500/8531/1

285 GLH

Mandatory units: Digital Literacy

Optional units: Digital Literacy

#### OCR Level 1/2 Cambridge National Diploma in ICT\* 600/4778/1

240 GLH

Mandatory units: IT

Optional units: IT and Digital Literacy and Computer Science

### Size of 3+ GCSEs (2 qualifications)

#### Edexcel BTEC Level 2 Diploma in IT (QCF) 500/9552/3

360 GLH

Mandatory units: IT

Optional units: IT and Computer Science

#### Edexcel Level 2 Diploma in Digital Applications for IT Users 100/5327/X

360 GLH

Mandatory units: Digital Literacy

Optional units: Digital Literacy IT and Computer Science

### Size of 4+ GCSEs (1 qualification)

#### Level 2 Principal Learning in IT

420 GLH

Mandatory units: IT

Optional units: none



# Annex A: Detailed analysis of qualification units

## Level 2 Principal Learning in IT

420 GLH

This qualification has seven units, all of which are mandatory

- The potential of technology | F/500/9462 | Level 2
- Exploring organisations | Y/500/9466 | Level 2
- Effective communication | H/500/9468 | Level 2
- Skills for innovation | M/500/9473 | Level 2
- Technology systems | T/500/9474 | Level 2
- Multimedia | F/500/9476 | Level 2
- Managing projects | L/500/9478 | Level 2

## BCS Level 2 Certificate in IT User Skills (ECDL Extra) (ITQ) (QCF) 500/6242/6

120 GLH Mandatory units

- Improving Productivity using IT
- Presentation Software
- Spreadsheet Software
- Word Processing Software

## BCS Level 2 Certificate in IT User Skills (ITQ) (QCF) 500/6175/6

110-125 GLH Mandatory Units

### Improving Productivity using IT

#### Optional units

This qualification is made up of a minimum of 16 credits, with at least half of optional credit coming from Level 2 (or level 3) units. The units to choose from are:

- Audio Software
- Bespoke Software
- Computerised Accounting Software
- Data Management Software
- Database Software
- Design Software
- Desktop Publishing Software
- Drawing and Planning Software
- Imaging Software
- IT Communication Fundamentals
- IT Software Fundamentals
- IT User Fundamentals

## Multimedia Software

### Optimise IT System Performance

- Personal Information Management Software
- Presentation Software
- Project Management Software

### Security for IT Users Set up an IT System

- Specialist Software
- Spreadsheet Software

### Using Collaborative Technologies

### Using email and the Internet \*\*

### Using Mobile IT Devices

- Video Software
- Website Software
- Word Processing Software

## City & Guilds Level 2 Certificate for IT Users (ITQ) (QCF) 500/6724/2

120 GLH

Product 7574 – To achieve the **Certificate** (QCA reference: 500/6724/2) learners must complete the relevant mandatory unit(s) and their choice of optional units to gain 16 credits or more.

## City & Guilds Level 2 Diploma for IT Users (ITQ) (QCF) 500/6760/6

275 GLH

Product 7574 – To achieve the **Diploma** (QCA reference: 500/6760/6) learners must complete the relevant mandatory unit(s) and their choice of optional units to gain 38 credits or more. (See table opposite)

Mix of **IT** and **digital literacy**



ACCREDITATION UNIT REFERENCE	CITY & GUILDS UNIT NUMBER	UNIT TITLE	MANDATORY/ OPTIONAL FOR FULL QUALIFICATION	CREDIT VALUE
J/502/4156	201	Improving Productivity using IT	Mandatory	4
M/503/0498	234	Understanding the Potential of IT	Mandatory (IT User Skills – Apprenticeship Pathway only)	8
T/503/0499	235	Developing personal and team effectiveness using IT	Mandatory (IT User Skills – Apprenticeship Pathway only)	4
L/502/4207	202	IT User Fundamentals	Optional	3
L/502/4210	203	Set Up an IT System	Optional	4
H/502/4245	204	Optimise IT System Performance	Optional	4
Y/502/4257	205	IT Security for Users	Optional	2
D/502/4292	206	IT Communication Fundamentals	Optional	2
A/502/4297	207	Using the Internet	Optional	4
M/502/4300	208	Using Email	Optional	3
F/502/4379	209	Using Collaborative Technologies	Optional	4
K/502/4375	210	Using Mobile IT Devices	Optional	2
L/502/4370	211	Personal Information Management Software	Optional	2
R/502/4385	212	IT Software Fundamentals	Optional	3
D/502/4390	213	Audio Software	Optional	3
M/502/4393	214	Video Software	Optional	3
F/502/4396	215	Bespoke Software	Optional	3
R/502/4399	216	Specialist Software	Optional	3
J/502/4402	217	Computerised Accounting Software	Optional	3
J/502/4559	218	Data Management Software	Optional	3
M/502/4555	219	Database Software	Optional	4
T/502/4573	220	Design Software	Optional	4
L/502/4613	221	Imaging Software	Optional	4
D/502/4566	222	Desktop Publishing Software	Optional	4
A/502/4610	223	Drawing and Planning Software	Optional	3
D/502/4616	224	Multimedia Software	Optional	4
M/502/4622	225	Presentation Software	Optional	4
M/502/4619	226	Project Management Software	Optional	4
F/502/4625	227	Spreadsheet Software	Optional	4
R/502/4631	228	Website Software	Optional	4
R/502/4628	229	Word Processing Software	Optional	4



## City & Guilds Level 2 Diploma for Software Developers 500/1729/9

120 GLH

Product code 7266–22

You complete 1 mandatory unit:

Create designs and test software components.

Plus 1 optional unit from:

Designing and creating databases

Designing and creating multi-page web sites

Create software components using C++

Create software components using COBOL

Create software components using Visual Basic

Create software components using Java

Create software components using C#

Create software components using Visual Basic.net.

## City & Guilds Level 2 Diploma in ICT Systems and Principles for IT Professionals (QCF) 501/1859/6

Product code

220 GLH

Learners need to achieve a minimum of 37 credits. 9 credits from group A and a minimum of 22 credits from group L2. The remaining 6 credits can be taken from a combination of either groups L2 and/or L3. A maximum of 6 credits can be taken from group UU.

### A (Mandatory unit)

Customer Support Provision 2 | T/601/8296 | Level 2 | 9

### L2 (Level 2 units)

#### A2 (CompTIA level 2 units)

CompTIA A+ Practical Application | M/602/1388 | Level 2 | 10

CompTIA A+ Essentials | H/602/1386 | Level 2 | 10

#### C2 (Cisco Level 2 units)

Cisco IT Essentials Part 1 | L/601/7459 | Level 2 | 10

#### CG (City & Guilds level 2 units)

Fibre optic cabling in an internal environment QCF | K/501/3957 | Level 2 | 6

Fibre optic cabling in an external environment QCF | M/501/3958 | Level 2 | 5

Maintain equipment and systems | K/501/3960 | Level 2 | 9

Install and configure ICT equipment and operating systems | J/501/3979 | Level 2 | 9

Install, configure and maintain software | A/501/3980 | Level 2 | 5

Testing ICT Systems | J/501/3982 | Level 2 | 5

ICT Systems monitoring and operation QCF | R/501/3984 |

Level 2 | 6

ICT repair centre procedure 2 | Y/501/3985 | Level 2 | 5

Install, configure and test ICT Networks | H/501/3990 | Level 2 | 9

Create automated procedures for ICT operating systems | K/501/3991 | Level 2 | 5

Business Concepts 2 | A/502/1108 | Level 2 | 4

Copper Cabling in an internal environment | F/600/6815 | Level 2 | 6

### M2 (Microsoft level 2 units)

Deploying and Maintaining Windows Vista Client and 2007 Microsoft Office System Desktops | A/502/3649 | Level 2 | 9

Microsoft Office Project 2007, Managing Projects | K/600/4394 | Level 2 | 6

Configuring Microsoft Windows Vista Client | J/502/3623 | Level 2 | 9

Supporting and Troubleshooting Applications on a Windows Vista Client for Consumer Support Technicians | K/502/3646 | Level 2 | 9

Supporting Users and Troubleshooting Desktop Applications on a Microsoft Windows XP Operating System | D/502/4065 | Level 2 | 9

Windows 7, Configuring | Y/601/6797 | Level 2 | 6

Windows 7, Enterprise Desktop Support Technician | D/601/6798 | Level 2 | 8

Supporting Users and Troubleshooting a Microsoft Windows XP Operating System | L/502/3798 | Level 2 | 9

MTA: Software Development Fundamentals | M/602/6347 | Level 2 | 10

MTA: Security Fundamentals | A/602/6349 | Level 2 | 10

MTA: Database Administration Fundamentals | A/602/6352 | Level 2 | 10

MTA: Web Development Fundamentals | F/602/6353 | Level 2 | 10

MTA: Networking Fundamentals | M/602/6350 | Level 2 | 10

MTA: Windows Development Fundamentals | T/602/6348 | Level 2 | 10

Windows Server Administration Fundamentals | T/602/6351 | Level 2 | 10

### S2 (Shared L2 NOS units from e-skills UK)

Networking principles | T/601/3289 | Level 2 | 6

Data Representation and Manipulation for IT | D/601/3206 | Level 2 | 7

Telecommunications principles | J/601/3295 | Level 2 | 7

Software testing | J/601/3510 | Level 2 | 6

Principles of ICT system and data security | L/601/3508 |

Level 2 | 6

Systems Architecture | M/601/3503 | Level 2 | 6

Web Fundamentals | R/601/3512 | Level 2 | 7

Creating an object oriented computer program | A/601/3181 | Level 2 | 7

Creating an event driven computer program | T/601/3177 | Level 2 | 7

Creating a procedural computer program | L/601/3167 | Level 2 | 7

#### UU (IT User Units)

Units

Using the Internet | A/502/4297 | Level 2 | 4

Drawing and Planning Software | A/502/4610 | Level 2 | 3

Spreadsheet Software | A/502/4624 | Level 1 | 3

Desktop Publishing Software | D/502/4566 | Level 2 | 4

Spreadsheet Software | F/502/4625 | Level 2 | 4

Using Email | J/502/4299 | Level 1 | 2

Drawing and Planning Software | J/502/4609 | Level 1 | 2

Imaging Software | J/502/4612 | Level 1 | 3

Presentation Software | K/502/4621 | Level 1 | 3

Imaging Software | L/502/4613 | Level 2 | 4

Word Processing Software | L/502/4627 | Level 1 | 3

Using Email | M/502/4300 | Level 2 | 3

Design Software | M/502/4572 | Level 1 | 3

Presentation Software | M/502/4622 | Level 2 | 4

Word Processing Software | R/502/4628 | Level 2 | 4

Website Software | R/502/4631 | Level 2 | 4

Using the Internet | T/502/4296 | Level 1 | 3

Design Software | T/502/4573 | Level 2 | 4

Desktop Publishing Software | Y/502/4565 | Level 1 | 3

Website Software | L/502/4630 | Level 1 | 3

Database Software | H/502/4553 | Level 1 | 3

Database Software | M/502/4555 | Level 2 | 4

Multimedia Software | D/502/4616 | Level 2 | 4

Multimedia Software | Y/502/4615 | Level 1 | 3

#### Edexcel BTEC Level 2 Extended Certificate in IT (QCF) 500/9550/X

180 GLH

##### Structure Requirements

The Edexcel BTEC Level 2 Extended Certificate in IT consists of 2 mandatory units (10 credits) plus optional units that provide for a combined total of 30 credits and 180 guided learning hours (GLH) for the completed qualification. Up to 10 credits of Optional vendor units may count towards this total. This structure allows the flexibility to import standard BTEC units (QCF) at Levels 1, 2 or 3 to meet local needs. This is limited to a total of 7 credits and can not be at the expense of the mandatory units in this qualification.

##### IT

CGM 0 (Compound Group Mandatory 0)

##### A (Mandatory Units)

Working in the IT industry | J/601/3202 | Level 2 | 5

Communicating in the IT Industry | K/601/3192 | Level 2 | 5

##### B (Optional Units)

##### B1 (Optional Units–A)

Computer Systems | H/601/3255 | Level 2 | 10

Website Development | A/601/3245 | Level 2 | 10

Project Planning using IT | A/601/3259 | Level 2 | 10

Supporting Organisations with IT | A/601/3391 | Level 2 | 10

IT Support | F/601/3277 | Level 2 | 10

Home Entertainment Systems | F/601/3294 | Level 2 | 10

Mobile Communications Technology | H/601/3398 | Level 2 | 10

Installing Computer Software | J/601/3264 | Level 2 | 10

IT Fault Diagnosis and Remedy | K/601/3287 | Level 2 | 10

Telecommunications Technology | K/601/3290 | Level 2 | 10

Setting up an IT Network | M/601/3274 | Level 2 | 10

Database Systems | R/601/3400 | Level 2 | 10

Installing Computer Hardware | T/601/3261 | Level 2 | 10

Developing Computer Games | Y/601/3348 | Level 2 | 10

Multimedia Design | L/601/3296 | Level 2 | 10

Customising Software | M/601/3405 | Level 2 | 10

Presenting Information Using IT | D/601/5828 | Level 2 | 10

Procedural Programming | H/601/5099 | Level 2 | 10

Computer Graphics | H/601/5801 | Level 2 | 10

IT Security | J/601/4057 | Level 2 | 10

Spreadsheet Modelling | K/601/5816 | Level 2 | 10

Event driven Programming | L/601/5095 | Level 2 | 10

Doing Business Online | Y/601/5083 | Level 2 | 10

Mathematics for IT | Y/601/5794 | Level 2 | 10

Business IT Skills | T/601/5012 | Level 2 | 10

Object Oriented Programming | K/601/5105 | Level 2 | 10

Software Design | T/601/5110 | Level 2 | 10

#### *B2 (Optional Specialist Units)*

Animation Techniques | M/600/6521 | Level 2 | 10

Interactive Media Production | Y/600/6514 | Level 2 | 10

#### *B3 (Optional Vendor Units)*

Cisco IT Essentials Part 1 | L/601/7459 | Level 2 | 10

CompTIA A+ Practical Application | M/602/1388 | Level 2 | 10

CompTIA A+ Essentials | R/501/3595 | Level 2 | 9

Windows 7, Enterprise Desktop Support Technician | D/601/6798 | Level 2 | 8

Windows 7, Configuring | Y/601/6797 | Level 2 | 6

### **Edexcel BTEC Level 2 Diploma in IT (QCF) 500/9552/3**

360 GLH

The Edexcel BTEC Level 2 Diploma in IT consists of 3 mandatory units (20 credits) plus optional units that provide for a combined total of 60 credits and 360 guided learning hours (GLH) for the completed qualification. Up to 20 credits of Optional vendor units may count towards this total. This structure allows the flexibility to import standard BTEC units (QCF) at Levels 1, 2 or 3 to meet local needs. This is limited to a total of 10 credits and can not be at the expense of the mandatory units in this qualification.

#### **IT**

CGM 0 (CompoundGroup Mandatory 0)

#### *A (Mandatory Units)*

Working in the IT industry | J/601/3202 | Level 2 | 5

Communicating in the IT Industry | K/601/3192 | Level 2 | 5

Computer Systems | H/601/3255 | Level 2 | 10

#### *B (Optional Units)*

##### *B1 (Optional Units–A)*

Website Development | A/601/3245 | Level 2 | 10

Project Planning using IT | A/601/3259 | Level 2 | 10

Supporting Organisations with IT | A/601/3391 | Level 2 | 10

IT Support | F/601/3277 | Level 2 | 10

Home Entertainment Systems | F/601/3294 | Level 2 | 10

Mobile Communications Technology | H/601/3398 | Level 2 | 10

Installing Computer Software | J/601/3264 | Level 2 | 10

IT Fault Diagnosis and Remedy | K/601/3287 | Level 2 | 10

Telecommunications Technology | K/601/3290 | Level 2 | 10

Setting up an IT Network | M/601/3274 | Level 2 | 10

Database Systems | R/601/3400 | Level 2 | 10

Installing Computer Hardware | T/601/3261 | Level 2 | 10

Developing Computer Games | Y/601/3348 | Level 2 | 10

Multimedia Design | L/601/3296 | Level 2 | 10

Customising Software | M/601/3405 | Level 2 | 10

Presenting Information Using IT | D/601/5828 | Level 2 | 10

Procedural Programming | H/601/5099 | Level 2 | 10

Computer Graphics | H/601/5801 | Level 2 | 10

IT Security | J/601/4057 | Level 2 | 10

Spreadsheet Modelling | K/601/5816 | Level 2 | 10

Event driven Programming | L/601/5095 | Level 2 | 10

Doing Business Online | Y/601/5083 | Level 2 | 10

Mathematics for IT | Y/601/5794 | Level 2 | 10

Business IT Skills | T/601/5012 | Level 2 | 10

Object Oriented Programming | K/601/5105 | Level 2 | 10

Software Design | T/601/5110 | Level 2 | 10

#### *B2 (Optional Specialist Units)*

Animation Techniques | M/600/6521 | Level 2 | 10

Interactive Media Production | Y/600/6514 | Level 2 | 10

#### *B3 (Optional Vendor Units)*

Cisco IT Essentials Part 1 | L/601/7459 | Level 2 | 10

CompTIA A+ Practical Application | M/602/1388 | Level 2 | 10

CompTIA A+ Essentials | R/501/3595 | Level 2 | 9

Windows 7, Enterprise Desktop Support Technician | D/601/6798 | Level 2 | 8

Windows 7, Configuring | Y/601/6797 | Level 2 | 6

**Edexcel Level 2 Certificate in Digital Applications for IT**

**Users 100/5326/8**

180 GLH

**Edexcel Level 2 Extended Certificate in Digital Applications for IT Users 100/6442/4**

270 GLH

**Edexcel Level 2 Diploma in Digital Applications for IT Users 100/5327/X**

360 GLH

**For Diploma**

Candidates must complete either D101 or D201 from Group A plus three units from Group B. At least two of the four units making up the Diploma must be at Level 2.

Digital Applications for IT Users

*R (Root)*

*A (Mandatory)*

Using ICT | J/103/2667 | Level 1

Using ICT | L/103/2671 | Level 2

*B (Optional)*

Multimedia | L/103/2668 | Level 1

Graphics | R/103/2669 | Level 1

ICT in Enterprise | J/103/2670 | Level 1

Multimedia | R/103/2672 | Level 2

Graphics | Y/103/2673 | Level 2

ICT in Enterprise | D/103/2674 | Level 2

Games Authoring | Y/501/6966 | Level 1

Games Authoring | D/501/6967 | Level 2

**IAM Level 2 Certificate in IT User Skills (ITQ) (QCF)\***

**501/1613/7**

120 GLH

To achieve the IAM Level 2 ITQ Certificate for IT User Skills a learner must complete units that give a combined total of 16 credits. The mandatory unit is worth 4 credits. At least 6 credits must come from the optional units at the level of the qualification. A minimum of 10 credits must therefore be achieved at Level 2. The remaining 6 credits can come from any level but only one unit from each optional group can contribute to the credit total.

**IT User Skills (ITQ)**

CGM 0 (Compound Group Mandatory 0)

*A (Mandatory Unit)*

Improving Productivity Using IT | J/502/4156 | Level 2 | 4

*B (Optional Units)*

AS (Audio Software)

BS (Bespoke Software)

CA (Computerised Accounting Software)

CF (IT Communication Fundamentals)

CT (Using Collaborative Techniques)

DB (Database Software)

DM (Data management software)

DP (Drawing and planning software)

EM (Using email)

IM (Imaging software)

IN (Using the internet)

IS (IT security for users)

MD (Using mobile devices)

MM (Multimedia software)

OP (Optimise IT system performance)

PI (Personal information management software)

PM (Project management software)

PS (Presentation software)

SF (IT Software fundamentals)

SI (Set up an IT system)

SP (Specialist software)

SS (Spreadsheet software)

UF (IT User fundamentals)

VS (Video Software)

WP (Word processing software)

WS (Website software)

**OCR Level 2 Certificate for Creative iMedia (QCF)**

**500/8529/3**

180 GLH

**OCR Level 2 Diploma for Creative iMedia (QCF)**

**500/8531/1**

285 GLH

In order to achieve this [Diploma] qualification candidates must achieve a total of 37 credits made up of 22 credits from level 2 and 15 credits from level 1, level 2 or level 3

**Creative iMedia**

CGM 0 (Compound Group Mandatory 0)

*1 (Core units)*

Pre-production skills | Y/600/7680 | Level 2 | 4

Digital media skills for asset production | T/600/7685 | Level 2 | 5

*2 (Optional units)*

2C (Visual special effects)

2D (Character modelling)

2E (Sound effects)  
 2F (Story telling with a comic strip)  
 2G (Virtual performance)  
 2H (Digital performance)  
 2I (Exploring the digital world of media)  
 2J (Interactive multimedia)  
 2K (Web authoring)  
 2L (Animation)  
 2M (Digital graphics editing)  
 2N (Digital sound)  
 2O (Digital video)  
 2P (Game design)  
 2Q (Game engines)  
 2R (Digital photography)  
 2S (Adobe)

### OCR Level 2 Certificate in IT User Skills (ITQ) (QCF)

500/6743/6

120 GLH

For a full qualification a candidate must achieve at least 16 credits. The qualification is made up of a mandatory group A, optional units in Group B and exempt units. There is one mandatory unit at level 2: Improving productivity using IT (4 credits). Within Group B, the optional units, candidates must achieve at least 12 credits of which: 6 credits must be at Level 2 or above. A QCF or SCQF accredited unit from another sector may be included (sector specific unit or SSU) with the following constraints: • must be from level 1 or above • must be of at least 4 credits • will only contribute a maximum of 4 credits • the credit does not count towards the requirement of 6 credits from Level 2 or above.

#### IT User Skills

1 (Structure)

#### A (Mandatory unit)

Improving Productivity Using IT | J/502/4156 | Level 2 | 4

#### B (Optional units)

AS (Audio software)  
 BS (Bespoke software)  
 CA (Computerised accounting software)  
 CF (IT communication fundamentals)  
 CT (Using collaborative technologies)  
 DB (Database software)  
 DM (Data management software)  
 DP (Drawing and planning software)  
 DS (Design software)  
 DT (Desktop publishing software)

EM (Using email)  
 IM (Imaging software)  
 IN (Using the internet)  
 IS (IT security for users)  
 MD (Using mobile devices)  
 MM (Multimedia software)  
 OP (Optimise IT system performance)  
 PI (Personal information management software)  
 PM (Project management software)  
 PS (Presentation software)  
 SAF (Internet safety for IT users)  
 SF (IT software fundamentals)  
 SI (Set up an IT system)  
 SP (Specialist software)  
 SS (Spreadsheet software)  
 UF (IT user fundamentals)  
 UKB (Using a computer keyboard)  
 VS (Video software)  
 WP (Word processing software)  
 WS (Website software)

### OCR Level 1/2 Cambridge National Certificate in ICT\*

600/4776/8

120 GLH

### OCR Level 1/2 Cambridge National Diploma in ICT\*

600/4778/1

240 GLH

#### Structure Requirements

Candidates complete 2 mandatory units and 6 optional units

#### ICT

A (ICT)

M (Mandatory)

Understanding computer systems | K/503/6025 | Level 1/2

Using ICT to create solutions in a business environment | M/503/6026 | Level 1/2

#### O (Optional)

Handling data using databases | A/503/6028 | Level 1/2

Handling data using spreadsheets | T/503/6027 | Level 1/2

Creating dynamic products using sound and vision | D/503/6040 | Level 1/2

Creating digital images | F/503/6029 | Level 1/2

Creating an interactive product using multimedia components | L/503/6034 | Level 1/2

Introduction to computer programming | T/503/6030 |

**Level 1/2**

Exploring computer hardware and networks | A/503/6031 | Level 1/2

Developing control systems | H/503/6041 | Level 1/2

Understanding technology - A project approach | J/503/6033 | Level 1/2

**TLM Level 2 Certificate in IT User Skills in Open Systems and Enterprise (ITQ) 500/8073/8**

120 GLH

1 mandatory unit at Level 2 (IPU) 4 credits. Optional units of 12 credits or more with at least 5 at level 2 or above and 7 from the ITQ framework. Up to 4 credits from a sector specific unit at any relevant level. Exempt units ICT Skills for Life, ICT Essential Skills (NI).

IT User Skills in Open Systems and Enterprise (ITQ)  
CGM (Compound Group Mandatory)

*MU (Mandatory units)*

Improving Productivity Using IT | J/502/4156 | Level 2 | 4

*OU (Optional units grouped by title)*

AS (Audio software)

BS (Bespoke Software)

CA (Computerised Accounting Software)

CF (IT Communication Fundamentals)

DB (Database software)

DM (Data Management Software)

DP (Drawing and planning software)

DS (Design software)

DT (Desktop Publishing)

EM (Using E-mail)

IM (Imaging Software)

IN (Using the Internet)

IS (IT Security for users)

MD (Using mobile IT devices)

MM (Multimedia Software)

OP (Optimise IT system performance)

PI (Personal information management software)

PM (Project management software)

PS (Presentation software)

SF (IT software fundamentals)

SP (Specialist software)

SS (Spreadsheet software)

SU (Set up an IT system)

UC (Using Collaborative Technologies)

UF (IT User fundamentals)

VS (Video software)

WP (Word processing software)

WS (Website Software)

**Edexcel GCSE ICT single award**

120 GLH

This qualification is made up of two compulsory units. Candidates must complete both units successfully to achieve this qualification.

Information and Communication Technology (ICT)

*OG (Overarching Group)*

*A (Level 1/Level 2 GCSE in ICT)*

01 : Living in a Digital World | A/503/7308 | Level 1/2

02 : Using Digital Tools | F/503/7309 | Level 1/2

**Edexcel GCSE ICT double award**

240 GLH

This qualification is made up of four compulsory units. Candidates must complete all units successfully to achieve this qualification.

Information and Communication Technology (ICT)  
(Double Award)

*OG (Overarching Group)*

*A (Level 1/Level 2 GCSE in ICT (Double Award))*

01 : Living in a Digital World | A/503/7308 | Level 1/2

02 : Using Digital Tools | F/503/7309 | Level 1/2

03 : Exploring Digital Design | T/503/7310 | Level 1/2

04 : Creating Digital Products | A/503/7311 | Level 1/2

**AQA GCSE Computer Science**

120 GLH

Both components are mandatory for this qualification. For assessments and subject awards for this specification there is a requirement that 100% of the assessment is terminal.

Computer Science

*1 (AQA GCSE in Computer Science)*

Practical Programming | F/503/7598 | Level 1/2

Computing Fundamentals | J/503/7599 | Level 1/2



## AQA GCSE ICT

### IT and Digital Literacy

The subject content is arranged in four Sections, 3.1 to 3.4. Below is an overview of the four sections:

#### Section 3.1: Current and emerging technologies

3.1.1 Computer systems and mobile technologies

3.1.2 Current input and output devices

3.1.3 Storage devices and media

3.1.4 Communications and entertainment

#### Section 3.2: A range of ICT tools and techniques

3.2.1 Systems life cycle

3.2.2 Working with information to solve problems

3.2.3 Operating systems and user interfaces

3.2.4 Application software

3.2.5 Word processing, DTP, web design and other presentation software

3.2.6 Graphics production and image manipulation

3.2.7 Spreadsheets and modelling software

3.2.8 Databases

3.2.9 Web browsing and e-mail

3.2.10 Web logs and social networking

3.2.11 Data logging and control software

#### Section 3.3: Society's use of ICT

3.3.1 Legal issues

3.3.2 Social and economic issues

3.3.3 Political, ethical and environmental issues

#### Section 3.4: Collaborative working

3.4.1 Principles and processes of collaborative working.

## OCR GCSE Computing – J275

120 GLH

This GCSE specification in GCSE Computing consists of three mandatory units.

### Computing

1 (Group No. 1 (Mandatory))

#### Units

Computer systems and programming | F/600/2375 | Level 1

Computing: Practical Investigation | Y/600/3256 | Level 1

Programming project | D/600/3257 | Level 1



**OCR GCSE ICT**

120 GLH

**IT** and **Computer Science**

**1.1 Overview of OCR GCSE ICT**

<b>Unit B061</b>	<b>ICT in today's world</b>
Written paper or Computer-based test 1 hour – 60 marks 20% of the GCSE 40% of the GCSE Short Course	Written paper: candidates answer all questions

and

<b>Unit B062</b>	<b>Practical applications in ICT</b>
Controlled assessment 60 marks 30% of the GCSE 60% of the GCSE Short Course	Candidates create an ICT solution using ICT applications

and

<b>Unit B063</b>	<b>ICT in context</b>
Written paper or Computer-based test 1 hour – 60 marks 20% of the GCSE	Written paper based on pre-release material: candidates answer all questions

and

<b>Unit B064</b> <b>Creative use of IT</b>	<b>Unit B065</b> <b>Coding a solution</b>
Controlled assessment 60 marks 30% of the GCSE	Controlled assessment 60 marks 30% of the GCSE
Candidates solve a problem by creating and developing a multimedia solution with appropriate creative elements	Candidates identify a potential coded solution to a problem and solve using basic programming techniques

*Candidates taking the GCSE (Short Course) in ICT J061 will need to complete units B061 and B062*

**WJEC GCSE ICT (single award and short course)**

120 GLH

**IT** and **Digital Literacy**

<b>Unit 1: Understanding ICT</b> <b>Single Award 20%; Short Course 40%</b> <b>External Assessment: 1½ hours 80 Marks (40 UMS)</b>
This examination paper will assess the requirements of the Key Stage 4 Programme of Study for Information and Communication Technology and the functional elements of ICT in a home and school context.
<b>Unit 2: Solving problems with ICT</b> <b>Single Award 30%; Short Course 60%</b> <b>External Assessment: 22½ hours 80 Marks (60 UMS)</b>
This controlled assessment consists of a portfolio of work which shows candidates' attainment in obtaining and interpreting different types of information; using, developing and communicating information to meet the purpose of their studies and presenting the results of their work. Their assignment will assess the practical aspects of the functional elements of ICT.
<b>Unit 3: ICT in Organisations</b> <b>Single Award 20%</b> <b>External Assessment: 1½ hours 80 Marks (40 UMS)</b>
This examination paper will assess the 'application' content of ICT in a business and industry context.
<b>Unit 4: Developing Multimedia ICT Solutions</b> <b>Single Award 30%</b> <b>External Assessment: 22½ hours 80 Marks (60 UMS)</b>
This controlled assessment will give candidates the opportunity to develop a piece of work using multimedia software following a single task brief issued by WJEC.

*To obtain a GCSE (Single Award) in ICT, candidates are required to study Unit 1, Unit 2, Unit 3 and Unit 4.*

*To complete a GCSE (Short Course) in ICT, candidates are required to study Unit 1 and Unit 2.*



# The Royal Academy of Engineering

As the UK's national academy for engineering, we bring together the most successful and talented engineers from across the engineering sectors for a shared purpose: to advance and promote excellence in engineering. We provide analysis and policy support to promote the UK's role as a great place from which to do business. We take a lead on engineering education and we invest in the UK's world class research base to underpin innovation. We work to improve public awareness and understanding of engineering. We are a national academy with a global outlook and use our international partnerships to ensure that the UK benefits from international networks, expertise and investment.

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## Lead the profession

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## Foster better education and skills

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## Promote engineering at the heart of society

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