Group Award Specification for:

SQA Advanced Diploma in Computing: Technical Support

Group Award Code: GM8E 48

Date of publication: August 2017

Version: 08 (December 2020)

History of changes

It is anticipated that changes will take place during the life of the qualification and this section will record these changes. Centres are advised to check SQA Connect to confirm they are using the up to date qualification structure.

NOTE: Where a Unit is revised by another Unit:

- No new centres may be approved to offer the Unit which has been revised.
- Centres should only enter candidates for the Unit which has been revised where they are expected to complete the Unit before its finish date.

Version number	Description	Date
08	**Addition of Optional Unit**: J550 47 - Cryptography: Practical Applications added as an Optional unit.	04/12/20
07	**Addition of Optional Unit**: J54E 47 Agile Development: Introduction added as an Optional unit	16/11/20
06	**Addition of Option Unit: J54F 47 -** Computer Networking: Concepts, Practice and Introduction as been added as an optional unit	08/11/20
05	**Addition of Optional Unit:** J3CP 47 Data Flow added as an Optional unit (Group 1)	24/03/20
04	**Addition of Optional Unit:** J1S1 47 Data Security added as an Optional unit (Group 1)	17/12/19
03	Added Option HP2J 48 Relational Database Management Systems to Group 1 options Corrected number of credits required in Group 1 - optional section to 15	12/06/19
02	The unit Computer Forensics Fundamentals (HP28 47) has been revised by unit Digital Forensics (J0L3 47). The unit Ethical Hacking Fundamentals (HR90 47) has been revised by unit Ethical Hacking (J0L2 47). Centres should enter candidates for the revised units from 1st August 2018. Centres may continue to enter candidates to HP28 47 or HR90 47, but candidates must have completed and results submitted by no later than 31/07/2021.	June 2018

Acknowledgement

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of this qualification.

Further information

Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 0345 279 1000. Alternatively, complete our Centre Feedback Form.

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1 Introduction

The purpose of this document is to:

- assist centres to implement, deliver and manage the qualification
- provide a guide for new staff involved in offering the qualification
- inform Course managers, teaching staff, assessors, learners, employers and HEIs of the aims and purpose of the qualification
- provide details of the range of learners the qualification is suitable for and progression opportunities

1.1 Rationale for Group Award

The SQA Advanced Diploma Computing: Technical Support group award is designed to equip candidates with the knowledge, understanding and skills required for success in current and future employment or for progression to further academic and/or professional qualifications.

1.2 Target Client Groups

This SQA Advanced Diploma in Computing: Technical Support award is suitable for a range of learners including:

- School leavers or apprentices who wish to embark on a course which will lead to either higher education or IT industry employment.
- Employed or unemployed adults with appropriate vocational skills wishing to train for a career in technical support.
- Learners completing the SQA Advanced Certificate in Computing with a view to progressing to university or employment as a technical support professional.

1.3 Employment Opportunities

The SQA Advanced Diploma in *Computing: Technical Support* is expected to lead to employment opportunities at IT Support technician level. The award has been designed to include opportunities to achieve certification with various industry vendors, eg CompTIA (Computing Technology Industry Association), Microsoft, and LPI (Linux Professional Institute).

The UK Commissions recent ICT Sector Skills Assessment [1] listed the following occupations: IT operations technicians, computer installation and maintenance engineers, IT user support technicians, and Telecommunications engineers, as amongst the top nine occupational groups within the ICT sector in 2010. Together they accounted for 80,000 jobs or 10.5% of the sector total[2]. *Computing*: *Technical Support* will be seen as the SQA Advanced Diploma of choice for learners aspiring to work in these important job areas.

The demand for skills relevant to the Group Award is expected to increase over the coming years. For example the report highlighted security and data protection skills as a high priority area of skills shortage recognised by employers and as a clear priority area for action. The report concluded that '*Technical support and IT Operations will all need to update and improve their security skills, implementing*

[1] UK Commission for Employment and Skills Information and Communication Technologies: Sector Skills Assessment 2012
[2] p39 of above

security measures and routinely protecting data and systems[3]. The SQA Advanced Diploma in *Computing: Technical Support* has been designed to enhance employability by addressing these and other expected areas of ICT sector skills shortages.

1.4 Relationship with other awards

This award is part of a suite of SQA Advanced qualifications. The SQA Advanced Certificate in Computing is embedded within the SQA Advanced Diplomas in:

- Computing: Networking
- Computing: Technical Support
- Computing: Software Development
- Computer Science

The SQA Advanced Certificate in Computing largely constitutes the first year of each these SQA Advanced Diploma programmes.

Each SQA Advanced Diploma offers a particular specialism that reflects recognised vocational or academic progression paths. The awards have similar structures and equivalent demands (in terms of practical or cognitive competencies) but each seeks to provide different skills sets and underpinning knowledge.

2 Qualification structure

This Group Award is made up of 30 SQA credits. It comprises 240 SCQF credit points of which 64 are at SCQF level 8 in the mandatory section including an SQA Advanced Certificate in *Computing* Graded Unit 1 of 8 SCQF credit points at SCQF level 7 and an SQA Advanced Diploma in *Computing: Technical Support* Graded Unit 2 of 16 SCQF credit points at SCQF level 8. A mapping of Core Skills development opportunities is available in section 5.3.

2.1 Structure

In order to achieve the SQA Advanced Diploma in *Computing: Technical Support* the candidate must achieve 15 mandatory credits and 15 optional credits from Groups 1, 2, 3 and 4.

The mandatory section of this Group Award incorporates 64 SCQF credit points at SCQF level 8 which satisfies the design principles.

[3] p166 of above

Mandatory Units – Total of 15 credits

Candidates must pass all of the following Units.

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
Developing Software: Introduction	HP1R 47	8	7	1
Professionalism and Ethics in Computing	HP29 47	8	7	1
Computer Systems Fundamentals	HP1T 47	8	7	1
Troubleshooting Computer Problems	HP1V 47	8	7	1
Team Working in Computing	HP1X 47	8	7	1
Computing: Graded Unit 1 (Exam)	HR9J 47	8	7	1
Network Server Operating Systems	HP2W 48	16	8	2
Network Technology and Data Communications	HP2X 48	16	8	2
Providing Technical Support to Users	HP35 48	8	8	1
Open Source Operating Systems: Introduction to Command Line Administration	HP33 48	8	8	2
Computing: Technical Support: Graded Unit 2 (Project)	HT8D 48	16	8	2

Optional Units — Total of 15 credits

Learners must select at least 15 credits selected from one or more of the following groups of optional Units.

Group 1: Specialist options (up to 15 credits)
Group 2: General options (up to 9 credits)
Group 3: Vendor Units (up to 7 credits)
Group 4: Local options (up to 4 credits)

These rules of combination ensure that the aims and objectives of the award are achieved, irrespective of the route through the award. For example, by limiting the general options to 9 credits, all candidates are required to complete at least 21 credits directly related to the subject area.

Group 1 specialist options should be seen as the non-mandatory credits which are fundamental to giving the Group Award its distinctive emphasis on software development. Group 2 general options give centres a degree of flexibility in course design, eg options to include mathematics, networking and hardware. Group 3 Units are dedicated vendor qualifications. See the following section for further information on vendor provision. Group 4 is local options where up to 4 credits can be selected from any area, subject to the design rules and rules of combination defined above. This is consistent with the current awards and reflects the preferences of centres so that they can customise the awards to their local circumstances.

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
Group 1 — Specialist Options (Up to 15 credits)				
Big Data	HR9T 47	8	7	1
Data Science	HR9V 48	16	8	2
Private Cloud Virtualisation	HR9R 48	8	8	1
Client Operating Systems	HP27 47	16	7	2
Cloud Computing	HP1Y 47	8	7	1
Computer Hardware: Desktop Computer Troubleshooting	HT0R 48	16	8	2
Computer Networks: Administering Network Systems	HT09 48	16	8	2
Computer Networks: Building Local Area Networks	HP2Y 47	16	7	2
Computer Operating Systems 2	HR79 48	8	8	1
Convergence Technologies	HP25 48	16	8	2
Mail Server Management	HP30 47	8	7	1
Managing a Web Server	HR8E 47	8	7	1
Managing a Web Server	HP2V 48	16	8	2
Open Source Operating Systems: Basic Server Administration	HP34 48	8	8	1
Open Source Operating Systems: Advanced Server Administration	HT0T 48	8	8	1
Open Source Operating Systems: Advanced Network Services Administration	HT0W 48	8	8	1
Technical Support: Supporting Users: Hardware	HP31 47	8	7	1
Technical Support: Supporting Users: Software	HP32 47	8	7	1
Network Concepts	HR8G 47	16	7	2
Network Security Concepts	HX00 47	16	7	2
Professional Career Development in the IT Industry	HT06 47	8	7	1
Configuring a Desktop Operating System	HR85 47	16	7	2
Troubleshooting a Desktop Operating System	HR86 47	16	7	2
Network Infrastructure 1: Implementation and Management	HT0P 48	16	8	2
Relational Database Management Systems	HP2J 48	16	8	2
Data Security	J1S1 47*	8	7	1
Agile Development: Introduction	J54E 47*	8	7	1
Cryptography: Practical Applications	J550 47*	8	7	1
Add Computer Networking: Concepts, Practice and Introduction	J5HF 47*	8	7	1

Group 2 — General Options (Up to 9 credits)				
Using Software Applications Packages	HR0A 47	8	7	1
Information Technology: Applications Software 1	HP6L 47	8	7	1
Computing: Planning	HR74 47	8	7	1
Building an e-Business	HR7V 47	8	7	1
Digital Forensics	J0L3 47*	8	7	1
Computer Hardware: Hardware Installation and Maintenance	HR91 47	16	7	2
Computer Networking: Fundamentals	HR87 47	8	7	1
Computer Networking: Practical	HP20 47	8	7	1
Computing: Introduction to Project Management	HP21 47	8	7	1
Computing: PC Hardware and Operating System Essentials	HP24 47	8	7	1
Computing: PC Hardware and Operating System Support	HR88 47	8	7	1
Database Design Fundamentals	HP2G 47	8	7	1
Databases: Introduction	HR89 47	8	7	1
Developing Mobile Web Based Applications: An Introduction	HR9X 47	16	7	2
Digital Culture: Online Collaboration	HR83 48	8	8	1
Digital Culture: Online Communications	HR81 47	8	7	1
Digital Culture: Web 2.0 Applications	HR82 46	8	6	1
E-Commerce: Publishing Web Sites	HR1V 47	16	7	2
Entrepreneurship in the Creative Industries	HR7G 48	8	8	1
Ethical Hacking	J0L2 47*	8	7	1
Preparing to Start a Business	HR3E 47	8	7	1
Handling Information as a Resource	HR8A 47	8	7	1
Human Computer Interaction	HR8C 47	8	7	1
Intrusion Prevention Systems	HR8D 47	8	7	1
IT: Information Systems and Services	HR92 47	8	7	1
Mathematics for Computing 1	HP1H 47	8	7	1
Mathematics for Computing 2	HR6T 48	8	8	1
Mathematics for Interactive Computing: Essential Techniques	HR7R 47	8	8	1
Mathematics: Calculus and Matrices for Computing	HR7E 47	8	7	1
Mobile Technology	HR8F 48	8	8	1
Multimedia: Developing Multimedia Applications	HR72 47	16	7	2
Multi User Operating Systems	HR77 47	8	7	1
Data Flow	J3CP 47*	8	7	1
Agile Development: Introduction	J54E 47*	8	7	1

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
Group 2 — General Options (Up to 9 credits)				
Personal Development Planning	HP6M 47	8	7	1
Project Management for IT	HR7J 47	8	7	1
Providing Support to Users	HR8H 47	8	7	1
Software Development: Developing Small Standalone Applications	HP2N 47	16	7	2
Systems Development: Introduction	HR8M 47	8	7	1
Software Development: Programming Foundations	HP2P 47	8	7	1
Software Development: Systems Foundations	HR8K 47	16	7	2
SQL: Introduction	HP2E 47	8	7	1
Systems Development: Testing Software	HR8P 47	8	7	1
Systems Development: User Centred Design	HR8T 47	8	7	1
User Interface Design	HR9Y 47	8	7	1
Work Role Effectiveness	HR0M 47	24	7	3
Work Role Effectiveness	HR0P 48	24	8	3
Working in IT	HR8X 48	16	8	2
Workplace Communication in English	HR1C 46	8	6	1
Bring Your Own Device (BYOD): Introduction	HR9P 47	8	7	1
Communication Practical Skills	HP4A 47	8	7	1
Digital Skills	HR9W 47	8	7	1
Group 3 — 'Vendor' Options (Up to 7 credits)				
Technical Specialist: Deploying and Maintaining Windows Vista Client and Microsoft 2007 Office Desktops	HR9G 47	15	7	1.5
Technical Specialist: Configuring Microsoft Windows Vista Client	HR9E 47	15	7	1.5
Technical Specialist: Windows 7: Configuring	HT02 48	24	8	3
Technical Specialist: Windows Server 2008: Network Infrastructure, Configuring	HR8Y 47	30	7	3.5
Technical Specialist: Windows Server 2008: Applications Infrastructure, Configuring	HR95 47	24	7	3
Technical Specialist: Windows Server 2008: Active Directory Configuring	HR9A 48	35	8	4
IT Professional: Windows Server 2008: Server Administrator	HR9K 49	15	9	1.5
IT Professional: Windows Server 2008: Enterprise Administrator	HT01 49	40	9	5
Database Design and Programming in SQL	HR9N 47	12	7	1.5
Database Programming with PL/SQL	HT8Y 48	12	8	1.5
Group 4 - Local Options (Up to 4 credits)				
Routing Technology	HP1J 48	16	8	2
Networking Technology	HP1M 48	16	8	2
Server Administration	HP1P 48	16	8	2

The structure of the award includes natural progression from SCQF level 7 to SCQF level 8 Units, for example:

- HP31 47 *Technical Support: Supporting Users: Hardware* and HP32 47 *Technical Support: Supporting Users: Software* to HP35 48 *Providing Technical Support to Users.*
- HP27 47 *Client Operating Systems* to HP2W 48 *Network Server Operating Systems.*

The Group Award contains two mandatory Graded Units as follows:

- SQA Advanced Certificate in *Computing*: Graded Unit 1 (Examination) SCQF level 7 — 1 credit
- SQA Advanced Diploma in *Computing: Technical Support* Graded Unit 2 (Project) SCQF level 8 — 2 credits

The Group Award has been designed to allow opportunities to follow vendor approved courses and work towards vendor certification as detailed in the following table[4]:

VENDOR	CERTIFICATION	UNITS
Microsoft	♦ MCSA ♦ MCTS (Win 7 Desktop Admin) ♦ MCITP (Win 7 Enterprise Admin) ♦ MCDST	See Group 3 'vendor options'
CompTIA	♦ A+ ♦ Network+ ♦ Security+	HP24 47 Computing: PC Hardware and Operating System Essentials HR88 47 Computing: PC Hardware and Operating System Support HR8G 47 Network Concepts HX00 47 Network Security Concepts
Linux	♦ Linux Professional Institute, LPI1 and LPI2	HP33 48 Open Source Operating Systems: Introduction to Command Line Administration HP34 48 Open Source Operating Systems: Basic Server Administration HT0T 48 Open Source Operating Systems: Advanced Server Administration HT0W 48 Open Source Operating Systems: Advanced Network Services Administration

[4] Note that completion of the units doesn't automatically give certification: candidates would still need to sit external vendor tests outwith their SQA Advanced Computing course to achieve the vendor certifications.

2.2 Inclusion of vendor qualifications within SQA Advanced Diploma in Computing: Technical Support

SQA has agreed to participate in a pilot project to evaluate the feasibility of directly accrediting vendor qualifications within this award. This pilot has the approval of SQA's Qualification Committee, chaired by the Director for Qualifications.

Previously, vendor qualifications were accredited through credit transfer, whereby shadow Units were created, based on vendor curricula, and candidates were awarded these [SQA] Units on the basis of their vendor achievements. However, this system placed the onus on SQA to revise these shadow Units whenever vendors changed their certifications.

The pilot programme places the responsibility for recognition on to the vendors. Vendors are required to credit and level their qualifications using SCQF, and then propose these awards for inclusion in this framework. Their inclusion, or otherwise, will be decided by the appropriate Qualifications Support Team.[5] Figure 2 illustrates the process of vendor accreditation.

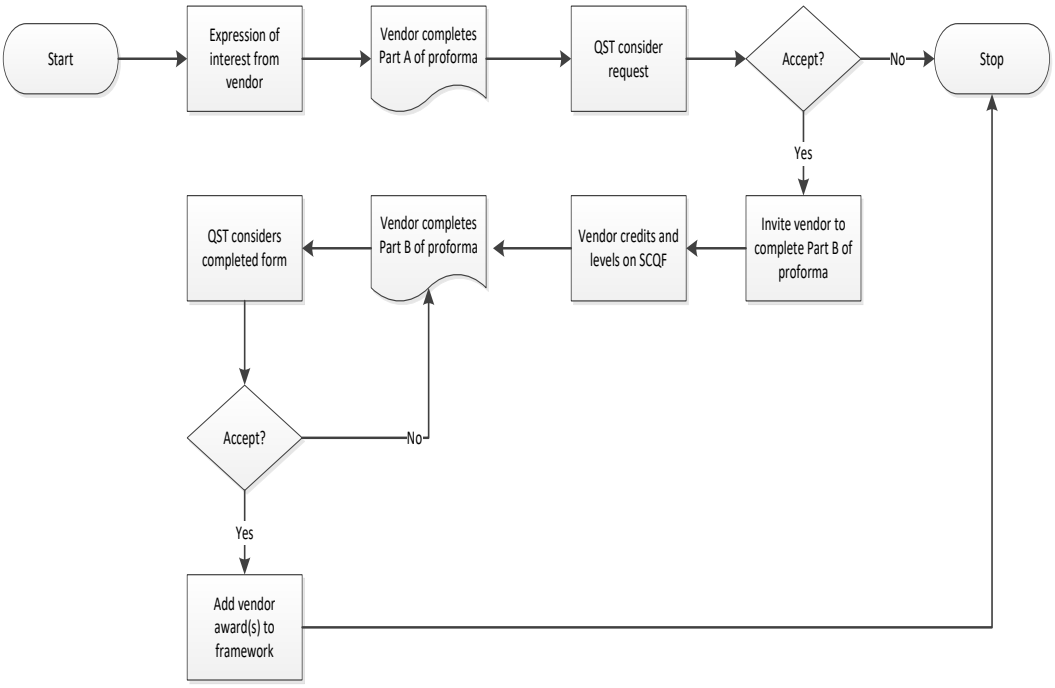

Figure 1: Vendor accreditation process

The Qualifications Committee imposed a cap on the contribution of vendor awards to national qualifications. The cap is 25% (seven credits for an SQA Advanced Diploma). This limit applies to all vocational qualifications with direct recognition of third party awards, based on SCQF. This rule will be reviewed when the pilot is evaluated.

It is the responsibility of each vendor to accredit their awards on SCQF. This may be done by any one of the SCQF-accreditation bodies in Scotland.

[5] During the development phase, the QDT will decide on the inclusion of specific vendor qualifications. This task will be taken over by the QST once the award is operationalised.

Grouping 3 within the qualification structure shows the accredited vendor qualifications. It is anticipated that more vendor awards will be added as and when they are accredited through this process. When a specific vendor award is accredited but found to be similar to an existing (generic) SQA Advanced Unit, these Units (the vendor Unit and the SQA Advanced Unit) will be grouped into an excluded combination to ensure that candidates cannot double count their knowledge or skills.

All decisions regarding the accreditation of vendor Units (for inclusion in this framework) and excluded combinations will be made by the Qualifications Support Team for SQA Advanced awards.

3 Aims of the qualification

The principal aim of the award is to prepare the candidates for employment in IT technical support.

The title of the award is SQA Advanced Diploma in *Computing: Technical Support*. This title was chosen for several reasons including:

- Accurately describes the essential content of the award.
- Distinguishes the award from the other related SQA Advanced Computing awards.
- Title of the award is popular with stakeholders.
- Provides prospective learners with accurate information about prospective job roles and employment opportunities which may be provided by achieving the award.

The SQA Advanced Diploma in *Computing: Technical Support* has been designed to reflect technological developments and IT Industry practices, and to ensure articulation to a wide range of degree programmes.

3.1 General aims of the qualification

The general aims of this award are:

1 To develop candidates' knowledge and skills in planning, developing and evaluating.
2 To develop employment skills, particularly relating to the IT industry.
3 To enable progression within the SCQF.
4 To develop study and research skills.
5 To develop learning and transferable skills (including Core Skills).
6 To provide academic stimulus.
7 To support candidates' continuing professional development.
8 To update the contents of the award to reflect current professional practices and technologies.
9 To update the contents of the award to incorporate best practice in assessment, including a reduction in time spent on assessment and maximising the use of e-assessment.
10 To maximise flexibility (while maintaining coherence) in qualification design to permit centres to customise the award to their local needs.
11 To reduce the academic level of the award (in terms of SCQF levels).
12 To produce Units that are able to embrace external changes without regular updates.

3.2 Specific aims of the qualification

The specific aims of the award are:

1 To provide learners with the underpinning knowledge that is compatible with a wide range of vendors.
2 To prepare learners for employment in an IT or Computing post at technician or professional level in a technical support role.
3 To equip learners with a range of specialist technical support skills and knowledge in the use and support of computer systems.
4 To prepare learners for progression to further study on HE Computing courses.
5 To develop in learners an awareness of professional IT issues such as legal and ethical considerations.

3.3 Graded Unit

The Group Award contains two mandatory Graded Units as follows:

- SQA Advanced Certificate in *Computing*: Graded Unit 1 (Examination) SCQF level 7 — 1 credit
- SQA Advanced Diploma in *Computing: Technical Support* Graded Unit 2 (Project) SCQF level 8 — 2 credits

The Graded Unit at SCQF level 7 is a mandatory Unit for the SQA Advanced Certificate in *Computing* and all four of the SQA Advanced Diploma in Computing courses. The Qualification Design Team chose to use an examination rather than a project for the SCQF level 7 Graded Unit for reasons detailed in the SQA Advanced Certificate in Computing Arrangements document.

The preferred format chosen for the mandatory Graded Unit at SCQF level 8 was a 2 credit project.

This format was chosen for several reasons including:

- A project allows more effective integration of skills and knowledge from the SCQF level 8 Units in the second year of the SQA Advanced Diploma.
- Candidates will have already completed a Graded Unit exam in first year so a project provides more balance towards practical assessment.
- A project provides greater opportunity for the development of skills in design, planning, communications and problem solving.
- HE articulation: a project facilitates progression to degree courses as it supports both scholarly activities and independent learning.
- Employer preference: employers expressed a preference for a project as it allows the learner to gain familiarity with scenarios simulating real-life experiences.

The SCQF level 8 Graded Unit is designed to evidence candidate's ability to plan, develop, implement and evaluate technical skills gained throughout their course. It does not ask the candidates to prove new skills. It will be project based and will allow the candidate the flexibility to select from a variety of different projects which are representative of the Technical Support Role, eg the practical implementation of a software deployment project, designing a network topology for a small to medium sized company, producing a report/feasibility study on the implementation of IT systems for an organisation, or setting up a Service Desk.

4 Recommended entry to the qualification

Entry to this qualification is at the discretion of the centre.

Learners would benefit from having attained the skills, knowledge and understanding required by one or more of the following qualifications and/or experience.

- Passes in two relevant National Courses at SCQF level 6 (Higher) together with three relevant subjects at National 5.
- A related National Certificate at SCQF level 6.
- A relevant combination of vocational awards at appropriate levels.
- A mix of the above.

For example, a school leaver may be expected to possess two Higher Level passes, (such as Computer Science and English) together with three passes at National 5 (such as Mathematics, Business Administration and History).

A college entrant would be expected to have completed a relevant National Certificate programme such as Digital Media Computing at SCQF level 6 or Computer Games Development at SCQF level 6. A combination of level 6 and level 5 National Units would also be appropriate. For example, a college entrant may possess a National Certificate in Mobile Technology at SCQF level 5 together with individual Unit passes at SCQF level 6.

Given the range of vocational awards available to learners, applicants who possess a range of smaller vocational qualifications should also be considered. For example, possession of relevant National Progression Awards (such as PC Passport and Computer Games Development at SCQF level 6) may be considered appropriate for entry to this award.

Applicants with a mixture of the above should also be considered for entry. For example, a candidate who possessed a pass in Computer Science at SCQF level 6 (Higher) together with one or more relevant NPA awards at SCQF levels 5 or 6 would, most likely, have the necessary knowledge and skills to benefit from undertaking this award.

Equivalent qualifications from other awarding bodies may also be acceptable as would suitable vendor certifications.

Mature candidates with suitable work experience should also be considered subject to the Core Skill entry profile detailed in Section 4.1.

For direct entry into Year 2 of the SQA Advanced Diploma in *Computing: Technical Support* learners should have successfully passed the SQA Advanced Certificate in *Computing*. While success at the SQA Advanced Certificate in C*omputing* necessitates passing only 12 credits including the mandatory Units, it's recommended that learners achieve 15 credits before moving onto Year 2 of the SQA Advanced Diploma. The selection of the three additional credits should be done at a local level. Recommended optional SCQF level 7 Units which may be useful for advancing into the second year of SQA Advanced Diploma in *Computing: Technical Support* include the following:

HP31 47 *Technical Support: Supporting Users: Hardware*
HP32 47 *Technical Support: Supporting Users: Software*
HP27 47 *Client Operating Systems*
HP24 47 *Computing: PC Hardware and Operating System Essentials*
HR88 47 *Computing: PC Hardware and Operating System Support*
HR8H 47 *Providing Support to Users*
HP2Y 47 *Computer Networks: Building Local Area Networks*
HR87 47 *Computer Networking Fundamentals*
HP1Y 47 *Cloud Computing*
HR8E 47 *Managing a Web Server*
HR77 47 *Multi User Operating Systems*
J0L3 47 *Digital Forensics*
HR8G 47 *Network Concepts*
HX00 47 *Network Security Concepts*

4.1 Core Skills entry profile

The Core Skill entry profile provides a summary of the associated assessment activities that exemplify why a particular level has been recommended for this qualification. The information should be used to identify if additional learning support needs to be put in place for learners whose Core Skills profile is below the recommended entry level or whether learners should be encouraged to do an alternative level or learning programme.

The recommended Core Skill profile for entry to this award is the same as for the SQA Advanced Certificate in *Computing*.

It is recognised that some candidates, particularly adult returners, may not possess a specific Core Skills profile on entry, hence entry level is only recommended. In this case, it is recommended that centres carry out an appropriate evaluation of the learner's basic skills to ensure that they have the necessary prerequisites to benefit from undertaking this award.

Core Skill	Recommended SCQF entry level	Associated assessment activities	SCQF exit level
Communication	SCQF 5	The Core Skill of 'Communications' at SCQF level 6 can be developed comfortably and naturally within the mandatory Units Team Working in Computing and Professionalism and Ethics in Computing but have been signposted rather than embedded.	SCQF 6
Numeracy	SCQF 5	The Core Skill of 'Numeracy' at SCQF level 5 is embedded within the mandatory Unit Computer Systems Fundamentals. A selection of 'Mathematics' Units which have Numeracy embedded at SCQF level 6 are also included in the framework as optional Units for centres wishing to offer a higher Core Skill exit level (refer to end of this section for more information).	SCQF 5
Information and Communication Technology (ICT)	SCQF 5	The Core Skill of 'ICT' at SCQF level 6 is embedded in the mandatory Unit Team Working in Computing.	SCQF 6
Problem Solving	SCQF 5	The Core Skill component of 'Critical Thinking' which is part of the Problem Solving Core Skill is embedded within the mandatory Unit of Developing Software: Introduction. The Core Skill of 'Problem Solving' at SCQF level 6 is embedded in the mandatory Unit Troubleshooting Computing Problems.	SCQF 6
Working with Others	SCQF 5	The Core Skill of 'Working with Others' at SCQF level 6 is embedded in the mandatory Unit Team Working in Computing.	SCQF 6

Core Skills can be embedded or signposted within Units**.** Embedded skills occur where the development of a Core Skill is incorporated into the Unit and where the Unit assessment also covers the requirements of Core Skill assessment at a particular level. Units that have embedded Core Skill(s) will be automatically certificated upon successful completion of the Unit assessments.

Signposted means identifying opportunities within the Unit for developing Core Skills other than those that can be summatively assessed and certificated. This allows the development of the Core Skills through teaching and learning to be utilised and these

opportunities are highlighted within the Unit support notes to those delivering and managing the Units.

Additional opportunities to attain the Core Skill of Numeracy at a higher SCQF level exist in the following Units:

HR7E 47	*Mathematics: Calculus and Matrices for Computing* (embedded — SCQF level 6)
HP1H 47	*Mathematics for Computing* 1 (Using Number embedded — SCQF level 6, Using Graphical Information embedded — SCQF level 5)
HR7R 47	*Mathematics for Interactive Computing*: Essential Techniques (signposted — SCQF level 6)

5 Additional benefits of the qualification in meeting employer needs

This qualification was designed to meet a specific purpose and what follows are details on how that purpose has been met through mapping of the Units to the aims of the qualification. Through meeting the aims, additional value has been achieved by linking the Unit standards with those defined in National Occupational Standards and/or trade/professional body requirements. In addition, significant opportunities exist for learners to develop the more generic skills, known as Core Skills through doing this qualification.

Please note that only the mandatory Units have been mapped to the aims of the Group Award as the mandatory Units cover all the aims of the award.

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5.1 Mapping of qualification aims to Units

To ensure that the aims of the national qualification are met, all specific aims are covered by the core Units defined in the award. Optional Units will however play pivotal roles in the extending the learner's depth of understanding with reference to specific aims.

1 To develop candidates' knowledge and skills in planning, developing and evaluating.
2 To develop employment skills, particularly relating to the IT industry.
3 To enable progression within the SCQF.
4 To develop study and research skills.
5 To develop learning and transferable skills (including Core Skills).
6 To provide academic stimulus.
7 To support candidates' continuing professional development.
8 To update the contents of the award to reflect current professional practices and technologies.
9 To update the contents of the award to incorporate best practice in assessment, including a reduction in time spent on assessment and maximising the use of e-assessment.
10 To maximise flexibility (while maintaining coherence) in qualification design to permit centres to customise the award to their local needs.
11 To reduce the academic level of the award (in terms of SCQF levels).
12 To produce Units that are able to embrace external changes without regular updates.
13 To provide learners with the underpinning knowledge that is compatible with a wide range of vendors.
14 To prepare learners for employment in an IT or Computing post at technician or professional level in a technical support role.
15 To equip learners with a range of specialist technical support skills and knowledge in the use and support of computer systems.
16 To prepare learners for progression to further study on HE Computing courses.
17 To develop in learners an awareness of professional IT issues such as legal and ethical considerations.

Unit title and code	Aims																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Developing Software: Introduction (HP1R 47)	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓					✓	✓	
Professionalism and Ethics in Computing (HP29 47)	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Computer Systems Fundamentals (HP1T 47)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	
Troubleshooting Computer Problems (HP1V 47)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	
Team Working in Computing (HP1X 47)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	
Computing: Graded Unit 1: Exam (HR9J 47)				✓	✓		✓		✓				✓				✓	
Network Server Operating Systems (HP2X 48)	✓		✓	✓	✓		✓	✓	✓	✓			✓		✓	✓	✓	
Network Technology and Data Communications (HP2X 48)	✓		✓	✓	✓	✓	✓		✓	✓			✓	✓	✓	✓	✓	
Providing Technical Support to Users (HP35 48)	✓		✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓		✓
Open Source Operating Systems: Introduction to Command Line Administration (HP33 48)	✓		✓	✓	✓	✓	✓	✓	✓	✓			✓		✓	✓	✓	
Computing: Technical Support: Graded Unit 2: Project (HT8D 48)	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓

5.2 Mapping of National Occupational Standards (NOS) and/or trade body standards

IT and Telecoms Professional National Occupational Standards (NOS) have been developed in parallel with and as part of the IT Professional Competency Model — e-skills Procom. E-skills Procom is being established as the industry recognised, internationally relevant training framework for organising courses and qualifications. It defines knowledge, understanding, and competencies for seven broad disciplines.

The disciplines are:

1 Sales and marketing
2 Business change
3 Programme and project management
4 Solutions architecture
5 Solution development and implementation
6 Information management and security
7 IT service management and delivery

The content of disciplines 1–3, while important to the IT&T sectors, do not fall within the scope of e-skills UK for NOS. Consequently these will not formally be recognised as NOS as is the case for disciplines 4–7. To maintain the relationship these NOS have been numbered to reflect the relationship to e-skills Procom. Within each discipline there exist a number of sub-disciplines. Within each sub-discipline the competences relating to a particular role have been defined.

This is an example of a structure and as there are many more optional Units available then this is not an exhaustive list.

4.1 Systems Architecture
4.2 Data Analysis
4.3 Human Needs Analysis
4.4 Systems Analysis
4.5 Data Design
4.6 Human Computer Interaction/Interface design
4.7 Systems Design
4.8 IT/Technology Infrastructure Design and Planning

5.1 Systems Development
5.2 Software Development
5.3 IT/Technology Solution testing
5.4 Systems Integration
5.5 IT/Technology systems installation, implementation and handover
6.1 Information management
6.2 IT Security management
6.3 IT Disaster Recovery

Unit title and code	National Occupational Standards															
	4.1	**4.2**	**4.3**	**4.4**	**4.5**	**4.6**	**4.7**	**4.8**	**5.1**	**5.2**	**5.3**	**5.4**	**5.5**	**6.1**	**6.2**	**6.3**
Developing Software: Introduction (HP1R 47)		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
Professionalism and Ethics in Computing (HP29 47)														✓	✓	
Computer Systems Fundamentals (HP1T 47)	✓					✓			✓		✓		✓			
Troubleshooting Computer Problems (HP1V 47)	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Team Working in Computing (HP1X 47)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Computing: Graded Unit 1 HR9J 47	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Network Server Operating Systems (HP2X 48)								✓			✓	✓	✓	✓	✓	✓
Network Technology and Data Communications (HP2X 48)								✓		✓	✓	✓				
Providing Technical Support to Users (HP35 48)			✓	✓	✓	✓	✓	✓			✓			✓	✓	✓
Open Source Operating Systems: Introduction to Command Line Administration (HP33 48)	✓														✓	✓
Computing: Technical Support: Graded Unit 2: Project (HT8D 48)								✓			✓			✓		

5.3 Mapping of Core Skills development opportunities across the qualification

Unit code	Unit title	Communication		Numeracy		Information Communication Technology (ICT)		Problem Solving			Working with Others	
		Written	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/ Creating information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
HP1R 47	Developing Software: Introduction							Embedded (SCQF 6)				
HP1X 47	Team Working in Computing	Signposted (SCQF 6)	Signposted (SCQF 6)			Embedded (SCQF 6)	Embedded (SCQF 6)				Embedded (SCQF 6)	Embedded (SCQF 6)
HP1V 47	Troubleshooting Computing Problems							Embedded (SCQF 6)	Embedded (SCQF 6)	Embedded (SCQF 6)		
HP1T 47	Computer Systems Fundamentals			Embedded (SCQF 5)	Embedded (SCQF 5)							
HP29 47	Professionalism and Ethics in Computing	Signposted (SCQF 6)	Signposted (SCQF 6)			Signposted (SCQF 6)	Signposted (SCQF 6)					
HP2W 48	Network Server Operating Systems											
HP2X 48	Network Technology & Data Communications											
HP35 48	Providing Technical Support to Users							Signposted (SCQF 6)	Signposted (SCQF 6)	Signposted (SCQF 6)		
HP33 48	Open Source Operating Systems: Introduction to Command Line Administration											
HT8D 48	SQA Advanced Diploma in Computing: Technical Support Graded Unit 2: Project							Embedded (SCQF 6)	Embedded (SCQF 6)	Embedded (SCQF 6)		

5.4 Assessment strategy for the qualification

Unit	Assessment			
	Outcome 1	Outcome 2	Outcome 3	Outcome 4
Network Server Operating Systems (HP2W 48)	40 Question closed-book Multiple-Choice test — Maximum of 2 hours			
Network Technology and Data Communications (HP2X 48)	Closed-book multi-choice or short-response questions		Extended response report requiring additional independent research, analysis and evaluation by candidates	
Providing Technical Support to Users (HP35 48)	10 Question closed-book extended response test based upon case study — Maximum of 2 hours		Presentation and Q/A session with peers assessed by an observational checklist and/or video/audio evidence	
Open Source Operating Systems: Introduction to Command Line Administration (HP33 48)	60 Question closed-book Multiple-Choice/short response test — Maximum of 2 hours			
SQA Advanced Diploma in Computing: Technical Support: Graded Unit 2: Project (HT8D 48)	The project is a complex task which consists of three stages: planning; developing; and evaluating			

6 Guidance on approaches to delivery and assessment

The award may be delivered full-time or part-time. To allow centres as much freedom of choice in choosing from many optional Units there is no defined sequence of delivery, although Section 6.1 will illustrate an example of how the Units could be sequenced.

Assessment in the SQA Advanced Diploma in *Computing: Technical Support* will cover a variety of knowledge and practical skills as well as the more intellectual skills of planning and evaluating. These together with the Core Skills mean that a large number of different methods are employed to ensure that a student 'can do what s/he is supposed to do' and 'knows what s/he is supposed to know'.

A large proportion of Units take a 'project' approach using the product of a previous assessment, as the foundation of the next and the purpose is to give the candidate a true reflection of how items being studied integrate and relate to industrial practice. Where this is practical, a holistic approach is encouraged to be taken by centres in assessing across a number of Outcomes within Units or across a number of Units.

The benefit of 'cross-assessment', if it goes well, is the achievement of several Outcomes on several Units with just one assessment instrument. A matching disadvantage is that a failure results in several Units not being achieved. It would be wise for centres to consider separating out the 'retake' assessments of students who have failed in their first attempt at a composite assessment instrument.

It may be possible to combine the delivery of Units in such a way as to create a thematic delivery of the component Units. The ways in which Units may be integrated is left to centres but thematic delivery, as opposed to discrete Unit delivery, may reduce assessment and improve coherence of content. The normal rules of re-assessment apply to this award. Candidates are normally permitted one re-assessment, or, in exceptional circumstances, two re-assessments at the discretion of the centre.

6.1 Sequencing/integration of Units

Providing the mandatory Units of the award are covered, centres are free to devise their own sequence for delivery of Units. It is recommended however that SCQF level 7 Units are undertaken in Year 1 with SCQF level 8 Units concentrated towards the end of Year 2.

Where possible, learners should complete a SCQF level 7 Unit before undertaking an associated SCQF level 8 Unit. For Example;

HR8E 47 *Managing a Web Server* → HP2V 48 *Managing a Web Server*
HP27 47 *Client Operating Systems* → HP2W 48 *Network Server Operating Systems*.

It is recommended that where possible assessments should be integrated to reduce the assessment load.

In selecting combinations of optional Units centres are also likely to consider issues such as:

- Articulation arrangements with universities
- Needs of employers
- Resources available to the centre

An example course schedule plan is suggested below, based upon a two-year course with each year comprising two semesters. Note that centres are free to devise their own alternative course plans:

Year 1

	Semester 1	level	credits		Semester 2	level	credits
CORE	Developing Software: Introduction (HP1R 47)	7	1		SQA Advanced Certificate in Computing: Graded Unit 1: Exam (HR9J 47)	7	1
	Computer Systems Fundamentals (HP1T 47)	7	1		Cloud Computing (HP1Y 47)	7	1
	Troubleshooting Computer Problems (HP1V 47)	7	1		Digital Forensics (J0L3 47)	7	1
	Professionalism and Ethics in Computing (HP29 47)	7	1		Technical Support: Supporting Users: Hardware (HP31 47)	7	1
	Team Working in Computing (HP1X 47)	7	1		Computing: PC Hardware and Operating System Support (HR88 47)	7	1
	Computing: PC Hardware and Operating System Essentials (HP24 47)	7	1				
	Client Operating Systems (HP27 47)					7	2
	Computer Networks: Building Local Area Networks (HP2Y 47)					7	2

Year 2

	Semester 3	level	credits		Semester 4	level	credits
CORE	Open Source Operating Systems: Introduction to Command Line Administration (HP33 48)	8	1		Providing Technical Support to Users (HP35 48)	8	1
	Computer Networks: Network Technology and Data Communications (HP2X 48)					8	2
	SQA Advanced Diploma in Computing: Technical Support: Graded Unit 2 (Project) (HT8D 48)					8	2
	Network Server Operating Systems (HP2W 48)					8	2
	Managing a Web Server (HR8E 47)	7	1		Managing a Web Server (HP2V 48)	8	1
	Computing: Introduction to Project Management (HP21 47)	7	1		Mobile Technology (HR8F 48)	8	1
	Mail Server Management (HP30 47)	7	1		Open Source Operating Systems: Basic Server Administration (HP34 48)	8	1
	Technical Support: Supporting Users: Software (HP32 47)	7	1				

There are a number of Units within the framework that could be combined to both help reduce the assessment burden on candidates and provide a more holistic learning experience. Some examples where this approach might be appropriate include combining:

- HR8E 47 Managing a Web Server and HP30 47 *Mail Server Management*
- HP2V 48 *Managing a Web Server* and HP34 48 *Open Source Operating Systems: Basic Server Administration*

6.2 Recognition of Prior Learning

SQA recognises that learners gain knowledge and skills acquired through formal, non-formal and informal learning contexts.

In some instances, a full Group Award may be achieved through the recognition of prior learning. However, it is unlikely that a learner would have the appropriate prior learning and experience to meet all the requirements of a full Group Award.

The recognition of prior learning may **not** be used as a method of assessing in the following types of Units and assessments:

- SQA Advanced Graded Units
- Course and/or external assessments
- Other integrative assessment Units (which may or not be graded)
- Certain types of assessment instruments where the standard may be compromised by not using the same assessment method outlined in the Unit
- Where there is an existing requirement for a licence to practice
- Where there are specific health and safety requirements
- Where there are regulatory, professional or other statutory requirements
- Where otherwise specified in an assessment strategy.

More information and guidance on the *Recognition of Prior Learning* (RPL) may be found on our website **www.sqa.org.uk**.

The following sub-sections outline how existing SQA Unit(s) may contribute to this Group Award. Additionally, they also outline how this Group Award may be recognised for professional and articulation purposes.

6.2.1 Articulation and/or progression

Articulation arrangements exist between a number of Scottish, UK and international universities where SQA Advanced Certificates and Diplomas will be accepted as advanced entry to either the second or third year of a related degree programme. Depending on the specific degree programme, certain units may be required as part of the SQA Advanced Certificate/Diploma. The optional section of the framework is sufficiently broad to ensure that centres are able to comply with reasonable articulation requests. A high proportion of our candidates have articulated to degree programmes and successfully completed them.

6.2.2 Professional recognition

SQA Advanced Certificates and Diplomas are recognised by many professional bodies. Candidates achieving an SQA Advanced Certificate/Diploma may meet the professional body entry requirements. Candidates may also gain partial and full exemptions to professional body exams.

6.3 Opportunities for e-assessment

It is recommended that where appropriate, centres should try to adopt ICT methods for assessment. This could include virtual learning environments such as Moodle, as well as use of Blogs, social media, and smart phones. Innovative methods such as the use of video, eg Screenhunter, or audio evidence should be used where appropriate.

As part of an assessment strategy, centres are encouraged to investigate the option of e-assessment to support the programme. E-assessment may take a number of forms, and while it may be feasible in the future to conduct all assessment in an on-line format, currently some formats are more amenable to e-assessment than others.

The most obvious format is that of objective tests, eg Multiple Choice or short response tests, and some SQA Units already have an Evidence Requirement mandating the use of this type of test. Centres could adopt tests supported by SOLAR (**www.sqasolar.org.uk**) where appropriate.

Below is a sample from within the core Units of the Group Award of where the possibility of e-assessment may exist:

Multiple-Choice/Short response e-assessment opportunities		
Unit title	**Code**	**Outcome**
Open Source Operating Systems: Introduction to Command Line Administration	HP33 48	1, 2, 3
Network Technology and Data Communications	HP2X 48	1, 2
Network Server Operating Systems	HP2W 48	1, 2, 3, 4
Providing Technical Support to Users	HP35 48	1, 2

e-portfolio opportunities			
Unit title	**Code**	**Outcome**	**Type**
SQA Advanced Diploma in Computing Technical Support: Graded Unit (Project)	HT8D 48	All	Project proposal Project Documentation
Providing Technical Support to Users	HP35 48	3	Case study documentation
Managing a Web Server	HP2V 48	1	Technical Report e-log
Network Technology and Data Communications	HP2X 48	3	Report

6.4 Support materials

A range of Assessment Support Packs (ASPs) have been produced for a number of mandatory and optional Units in this Group Award. These packs are available on the SQA secure website and access can be sought through the SQA co-ordinator in each centre.

6.5 Resource requirements

Individual centres will require sufficient equipment, eg PCs on which learners have administration rights, Internet access, and hardware lab tools and facilities. Where lack of PC systems is an issue, good use can be made of virtualization software, eg Microsoft virtual PC, VMware, or Oracle VM virtual box. Where lack of operating system software is an issue, centres can participate in programs such as Microsoft Academy which supplies low cost access to system software. Useful resources for information include social media sites, eg YouTube.

Staff may also require training and CPD to deliver the new Units and subject matter in the Group Award, eg cloud computing, convergence technology, mobile technology. For vendor based Units it's recommended that centres have staff trained up to the relevant CompTIA or Microsoft levels. For the delivery of the mandatory Unit *Open Source Operating Systems: Introduction to Command Line Administration* (HP33 48) it is recommended that centres have at least one person trained and qualified up to LPI (Linux Professional Institute) level 1.

Centres intending to deliver the optional unit *Relational Database Management Systems* (HP2J 48) might consider adopting the Oracle Academy.

7 General information for centres

Equality and inclusion

The Unit specifications making up this Group Award have been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners will be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. Further advice can be found on our website **www.sqa.org.uk/assessmentarrangements**

Internal and external verification

All instruments of assessment used within this/these qualification(s) should be internally verified, using the appropriate policy within the centre and the guidelines set by SQA.

External verification will be carried out by SQA to ensure that internal assessment is within the national guidelines for these qualifications.

Further information on internal and external verification can be found in *SQA's Guide to Assessment* **(www.sqa.org.uk/GuideToAssessment)**

8 Glossary of terms

Embedded Core Skills: is where the assessment evidence for the Unit also includes full evidence for complete Core Skill or Core Skill components. A learner successfully completing the Unit will be automatically certificated for the Core Skill. (This depends on the Unit having been successfully audited and validated for Core Skills certification.)

Finish date: The end of a Group Award's lapsing period is known as the finish date. After the finish date, the Group Award will no longer be live and the following applies:

- candidates may not be entered for the Group Award
- the Group Award will continue to exist only as an archive record on the Awards Processing System (APS)

Graded Unit: Graded Units assess learners' ability to integrate what they have learned while working towards the Units of the Group Award. Their purpose is to add value to the Group Award, making it more than the sum of its parts, and to encourage learners to retain and adapt their skills and knowledge.

Lapsing date: When a Group Award is entered into its lapsing period, the following will apply:

- The Group Award will be deleted from the relevant catalogue.
- The Group Award specification will remain until the qualification reaches its finish date at which point it will be removed from SQA's website and archived.
- No new centres may be approved to offer the Group Award.
- Centres should only enter candidates whom they expect to complete the Group Award during the defined lapsing period.

SQA Credit Value: The credit value allocated to a Unit gives an indication of the contribution the Unit makes to an SQA Group Award. An SQA credit value of 1 given to an SQA Unit represents approximately 40 hours of programmed learning, teaching and assessment.

SCQF: The Scottish Credit and Qualification Framework (SCQF) provides the national common framework for describing all relevant programmes of learning and qualifications in Scotland. SCQF terminology is used throughout this guide to refer to credits and levels. For further information on the SCQF visit the SCQF website at **www.scqf.org.uk**

SCQF credit points: SCQF credit points provide a means of describing and comparing the amount of learning that is required to complete a qualification at a given level of the Framework. One SQA Credit (irrespective of level) is equivalent to 8 SCQF credit points.

SCQF levels: The level a qualification is assigned within the framework is an indication of how hard it is to achieve. The SCQF covers 12 levels of learning. SQQ Advanced Certificates and SQA Advanced Diplomas are available at SCQF levels 7 and 8 respectively. SQA Advanced Units will normally be at levels 6–9 and Graded Units will be at level 7 and 8.

Subject Unit: Subject Units contain vocational/subject content and are designed to test a specific set of knowledge and skills.

Signposted Core Skills: refers to opportunities to develop Core Skills arise in learning and teaching but are not automatically certificated.

9 General information for learners

This section will help you decide whether this is the qualification for you by explaining what the qualification is about, what you should know or be able to do before you start, what you will need to do during the qualification and opportunities for further learning and employment.

This award is designed to offer you academic, technical and professional training leading to the skills necessary to work at a senior level in IT Support or manage Computing systems in a wide range of industries. The award has been designed to include opportunities to achieve certification with various industry vendors, eg CompTIA (Computing Technology Industry Association), Microsoft, and LPI (Linux Professional Institute).

This SQA Advanced Diploma in *Computing: Technical Support* is suitable for a range of learners including:

- School leavers who wish to embark on a course which will lead to either higher education or IT industry employment.
- Employed or unemployed adults wishing to retrain for a career in technical support.

By undertaking the award you are also expected to continue to benefit from the many existing arrangements that exist between FE colleges and Universities, for articulation into the 2nd or 3rd year of University degree programs.

At the discretion of a centre, you may be permitted to enter the award by waiving some of the entry requirements — based on your previous experience.

To achieve the award you will need to pass a minimum of 30 credits from the SQA Advanced Diploma in *Computing: Technical Support* award including all 14 of the mandatory Units. Units are assessed by a combination of exams, projects and logs/portfolios. Included within the mandatory Units are a *Computing* Graded Unit 1 (Examination) in Year 1 and a *Computing: Technical Support* Graded Unit 2 (Project) in Year 2.