



**Arrangements for:
HND Information Technology**

Group Award Code: G8CX 16

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Acknowledgement

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of Higher National qualifications.

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History of changes

It is anticipated that changes will take place during the life of the qualification and this section will record these changes. This document is the latest version and incorporates the changes summarised below. Centres are advised to check SQA's APS Navigator 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
16	Revision of Units: F847 33 recording Financial Transactions has been replaced by HH81 33. F84V 34 IT in Business: Spreadsheets has been replaced by HH83 34. F84C IT in Business: Word processing and Presentation Applications has been replaced by HH84 34. F84A 35 IT in Business: Advanced Word processing has been replaced by HH86 35. F84W 35 Information and Communication Technology in Business has been replaced by HH87 35. All old units will finish on 31/07/2019	27/01/17
15	Revision of Units: H17J 34 Developing Mobile Web Based Applications: An Introduction has been replaced by HF4Y 34. F6BV 35 Human Computer Interface has been replaced by HF52 35. F207 34 Digital Imaging: Bitmap Techniques has been replaced by HF86 34. F208 34 Digital Imaging: Vector Techniques has been replaced by HF87 34. All old units will finish 31/07/2019	12/07/16
14	Addition of an Optional Unit: Digital Skills H9DE	27/08/15
13	Revision of Unit: DV5N 34 Web Design: An Introduction has been replaced by H383 34 and finishes on 31/07/2016	06/07/15
12	Revision of Unit: DE1K 33 Workplace Communication in English has been revised by H8T2 33 and finishes on 31/07/2016.	21/05/15
11	Addition of an Optional Unit: H173 34 Developing Software: Introduction	10/04/15
10	Revision of Unit: DK2K 34 Getting Started in Business <i>has been revised by H7V4 34 Preparing to Start a Business and will finish on 31/07/2016.</i>	10/12/14
09	<i>Developing Mobile Web Based Applications: An Introduction (H17J 34) added as an optional Unit.</i>	15/07/14
08	Addition to framework: <i>Computing: PC Hardware and Operating Systems Essentials (H17E 34) and Getting Started in Business (DK2K 34).</i>	09/08/13
07	Added to framework: <i>Information Technology: Applications Software 1 D75X 34.</i>	16/01/13
06	Changes to codes: <i>IT in Business: Spreadsheets from DE1M 34 (lapsed date 31/07/2012, finish date 31/07/2014) to F84V 34. IT in Business: Databases from DE1N 34 (lapsed date 31/07/2012, finish date 31/07/2014) to F84X 34. Information and Communication Technology in Business from DE3K 35 (lapsed date 31/07/2012,</i>	25/10/12

	<p><i>finish date 31/07/2014) to F84W 35. IT in Business: Advanced Spreadsheets from DE1V 35 (lapsed date 31/07/2012, finish date 31/07/2014) to F849 35. Statistics for Business from DE3M 35 (lapsed date 31/07/2012, finish date 31/07/2014) to F84K 35. IT in Business: Word Processing and Presentation Applications from DE1L 34 (lapsed date 31/07/2012, finish date 31/07/2014) to F84C 34. Human Resource Management: Introduction from DN78 34 (lapsed date 31/07/2012, finish date 31/07/2014) to H1KP 34. Recording Financial Transactions from DP9F 33 (lapsed date 31/07/2012, finish date 31/07/2014) to F847 33. Information Technology: Information Systems and Services from DH37 34 (lapsed date 31/07/2013, finish date 31/07/2015) to H1G0 34. IT in Business: Word Processing, Spreadsheets and Databases: An Introduction from DE24 33 (lapsed date 31/07/2011, finish date 31/07/2013) to FG69 33. IT in Business: Advanced Word Processing from DE2G 35 (lapsed date 31/07/2012, finish date 31/07/2014) to F84A 35. Using Financial Accounting Software from DE59 34 (lapsed date 31/07/2012, finish date 31/07/2014) to F7JP 34. Computer Networks: Building Local Area Networks from DH31 34 (lapsed date 31/07/2013, finish date 31/07/2015) to H17C 34. Systems Development: Introduction from DH3F 34 (lapsed date 31/07/2013, finish date 31/07/2015) to H180 34. Management: Leadership at Work from DV88 34 (lapsed date 31/07/2013, finish date 31/07/2015) to H1F2 34.</i></p>	
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06 (cont)	Changes to codes and titles: <i>Software Development: Relational Database Systems</i> from DH3D 35 and FE77 35 (<i>lapsed date 31/07/2013, finish date 31/07/2015</i>) to <i>Relational Database Management Systems</i> H16W 35. <i>Software Development: Developing for the World Wide Web</i> from DH32 35 (<i>lapsed date 31/07/2013, finish date 31/07/2015</i>) to <i>Software Development: Developing Websites for Multiplatform Use</i> H1J9 35. <i>Software Development: Object Oriented Programming</i> from DH3C 35 (<i>lapsed date 31/07/2013, finish date 31/07/2015</i>) to <i>Systems Development: Object Oriented Analysis and Design</i> H172 35.	25/10/12
05	Additional Units added to the optional section.	July 2011
04	Addition of revised IT in Business Units and added options.	29/07/10
03	Additional Units added to the optional section.	10/09/09
02	Updated options included.	July 2009

1 Introduction

This is the Arrangements Document for the new Group Award in HND Information Technology, which was validated in June 2006. This document includes: background information on the development of the Group Award, its aims, guidance on access, details of the Group Award structure, and guidance on delivery.

The award title, HND Information Technology, has been under much discussion. Overwhelmingly, practitioners who attended the seminars held in June 2004 and April 2005, wanted this title and felt that it did reflect the contents of the Units in the mandatory section of the award. A focus group meeting was held with practitioners in May 2006. The name of the award was discussed at length and all decided on it for continuity, for public perception and also because e-Skills UK (www.e-skills.com) use this term for advanced users of Information Technology, and these areas are covered in the mandatory section.

The Office of Government Commerce who control the ITIL standards supported by the BSI Standard for IT Service Management (BSI5000) www.OGC.Gov.uk/index.asp endorses the Information Technology name.

At the launch of the HNC Information Technology on 8 June 2006, delegates discussed the title for the new HND award. After lengthy discussion, there was an agreement that the cognate group should 'take ownership' of the term 'Information Technology' and the consensus was that the new award should be titled, HND Information Technology.

The HND Information Technology offers a wide range of Information Technology skills that can be applied in different areas in the workplace.

2 Rationale for the development of the Group Award

2.1 The Development groups

In order to bring this award to fruition, the group examined National Occupational Standards (a mapping between National Occupational Standards is contained in Appendix 1) for both Information Technology Users and Information Technology Practitioners as a guide to subject coverage of the new awards.

This group became the Qualification Design Team which progressed the award and produced the framework for the HND Information Technology.

2.2 The need for the Award

There is no national award at present for HND Information Technology. As can be seen from the data collected in Table 1 below, there were 126 entries for similar awards. SQA have compiled some statistics for these awards.

Table 1 — Entries for similar HND Information Technology awards 2000 to 2005								
Entries for Information Technology HNs 2000 to 2005								
Product Code	Product Code	Product Title	Session					Grand Totals
			2000/01	2001/02	2002/03	2003/04	2004/05	
G25X	16	HND Business Info Systems	0	0	0	11	0	11
G295	16	HND IT and Business Administration	20	13	14	10	8	65
G5DE	16	HND IT & Business Administration	1	5	5	2	9	22
G6X6	16	HND Business IT	0	0	4	2	0	6
G7D0	16	HND Administration and IT	0	0	0	0	22	22
Grand Totals			21	18	23	25	39	126

Table 2 — Projected Uptake	
2003/2004	25
2004/2005	39
First year of new award	50
Second year of new award	75
Third year of new award	100

It is envisaged that as current locally devised awards are phased out, centres will begin to use these new national awards. The awards in Table 1 will be disappearing due to their lifespan finishing.

2.3 Market research

Recent market research (IT Insights: Skills Gaps Analysis — Scotland, e-Skills UK and Gartner Consulting February 2005) indicates that there is an Information Technology skills gap in the UK workforce. Many employers have identified a lack of both Information Technology professional skills and Information Technology user skills within their organisations. In addition, they expect an increasing percentage of their workforce to have ‘advanced level’ Information Technology skills.

The research shows that there is increasing demand for specific skills in SQL, Oracle and MS Office and for database administrator jobs. For example a recent survey (Salary Services Ltd., Q4 of 2004; www.salaryservices.co.uk) of the top Information Technology skills advertised in the UK shows SQL top with an increase of 20% over the previous quarter, 'Office' second with an increase of 17%, and Oracle skills sixth, with an increase of 19%.

The sector targeted by this award has been identified in the report IT Insights: Skills Gap Analysis – Scotland for e-skills (February 2005). This shows that Business Managers and IT Users are and will be required. Scottish firms are enthusiastic about using IT to support business especially in the Finance and Accounting areas. A notable proportion of employment is in the Financial Intermediation sector, Scotland has an effective broadband infrastructure programme and e-procurement and e-trading are increasing.

One in 37 of all employees in Scotland is defined as an IT professional.

The key messages in the report indicate:

- ◆ 37,115 employees in the IT industry
- ◆ 42,289 IT professionals working in other industries
- ◆ 1.6 million IT users in the workforce

It is further indicated that there is a requirement to upskill the current business manager workforce. To address a three-year forecast (2005–2008) it is estimated that 48,000 managers need their skills updating, 51% to level 2 and 43% to level 3 and above. This 43% is a target for the HND award. For the IT user it is estimated that 531,000 need their skills updated: 61% to level 2 and 39% to level 3+. Again this 39% is a target for the award.

The e-skills document IT Insights: Employer Skills Needs, <http://www.e-skills.com/Research/itinsights/1055#employer> gives an outline of the IT User Skills framework. IT user skills are grouped into four areas — one of which is 'Using and Maintaining ICT'. This covers troubleshooting, maintenance and security.

In Chapter 4 of the document there is an analysis of skills gaps amongst IT users in the workforce. This shows that 48% of establishments have skills gaps in Using and Maintaining ICT. This is the second highest area of demand, coming after 'Manipulating and Presenting Information'. In Chapter 4, page 34 the document states, 'the demand for additional IT user skills training is most apparent for troubleshooting, spreadsheets and databases at Intermediate/Advanced level and for word processing at Advanced/Expert level'.

The implications are:

- ◆ The inclusion of a Unit in basic troubleshooting, maintenance and security within an IT qualification in advanced user skills is justified. Research from employers shows that Advanced IT users need skills in IT troubleshooting, maintenance and security.
- ◆ 'The IT industry will have on-going demand for technical skills' (Page 8, IT Insights: Skills Gap Analysis – Scotland for e-skills (February 2005)).

The HND Information Technology award will help meet the demands outlined in the above research.

Research carried out with employers show that there is a skills gap in IT, which this award seeks to address.

Salary Services Limited (www.salaryservices.co.uk/ November 2005) rate the top ten IT skills as follows:

Table 3 — Top Ten IT Skills, Permanent Posts			
Rank	Skill	No of Jobs Qtr3/2005	%Change From Previous Year
1	SQL	22999	+33
2	C	15648	+8
3	OFFICE	15009	+24
4	UNIX	13476	+13
5	JAVA	13302	+4
6	ORACLE	12950	+23
7	C++	12506	+5
8	SQL SERVER*	10223	+43
9	.NET*	9463	+58
10	C#*	8754	+93

Table 3 shows the top IT skills advertised, in Quarter 3 2005, with the percentage change from the same quarter in 2004. In all cases there is an increase in demand for IT skills. The figures are for all of the United Kingdom.

The number of IT permanent posts advertised in Scotland and Northern Ireland has increased by 53% compared to a year ago.

The HND Information Technology award will help meet the demands outlined in the above research.

Membership of a Professional Body

Confirmation has been given by the British Computer Society that graduates holding an HND Information Technology award will be eligible to apply for BCS Associate Membership.

2.4 Candidates for Whom this Award is Intended

Proposed Client Groups:

- ◆ Full and part-time candidates wishing to gain employment, and aspire to supervisory level, in the area of Information Technology and Information Systems.
- ◆ The award is targeted at candidates who wish to follow a career in Business Applications using Relational Database Management Systems technology and who wish to become Database Administrators or to act in a supervisory capacity tailoring and/or writing scripts to automate aspects of Information Technology Applications for users with less expertise.
- ◆ Full and part-time candidates wishing to gain employment, at supervisory level, in the areas of Information Technology and Information Systems, for example database administrators, using relational database systems to develop business applications, or writing scripts to automate aspects of Information Technology applications.
- ◆ People who wish to progress to degree programmes in Information Technology and IT and Business related disciplines.

The award would also suit candidates who are mature returners seeking employment in Information Technology related jobs. Increased demand for IT jobs is detailed in Table 1, Salary Services Ltd. There is also a projected increase in demand in the future, IT Insights: Skills Gap Analysis – Scotland for e-skills (February 2005). In face to face meetings with local and national government bodies, both stated that they would be willing to send employees to undertake the award, on a part time basis, to local colleges as the awards meet their needs.

2.5 Relationship of this Award to existing SQA provision

Since this award is being written under the new design guidelines for Higher National Awards, it is intended that it will replace all locally devised HND Information Technology awards.

2.6 Articulation arrangements

In designing the award, the Qualification Design Team has been fully aware of the need for the qualification to contain relevant technical and transferable skills to enable immediate entry to employment while at the same time allowing articulation to degree courses. The Qualification Design Team believe that an appropriate balance between academic and vocational knowledge and skills has been achieved through the mix of Unit content and teaching approaches. Care has been taken in the design of the curriculum of these awards to ensure that topics and Units required to maintain articulation routes are included.

Articulation agreements are already in place for the existing locally devised HND Information Technology awards and it is expected that similar agreements will be established for the new award.

The new Higher National Diploma in Information Technology is nationally devised and will be delivered across Scotland. Like Standard Grades and Highers it will be a nationally delivered, assessed and recognised qualification. Like all new Higher National programmes the Qualification Design Team engaged representatives from Higher Education.

The HND Information Technology award is designed to allow the candidate to progress to a degree in a related area.

Some examples of articulated entry to a degree programme are shown in Table 4 below.

Table 4 — Articulated Entry to HE Institutions	
HE INSTITUTION	DEGREE
Abertay University	BSc (Hons) Information Systems BSc(Hons) Web Design and Development BSc(Hons) Computing (All stage 3)
Bell College	BA Business Information Management (Stage 3)
Robert Gordon University	BSc(Hons) Information Technology (Stage 3)
University of Aberdeen	BSc Internet Information System (Stage 3)
Caledonian University	BA/BA(Hons) Business Information Management BA/BA(Hons) Electronic Business (All stage 3)
Napier University	BSc Information Systems (Stage 3)

It is possible for a candidate to articulate directly to the third year of some university degree programmes. Typically articulation will be limited by the following:

- ◆ Candidates would normally need to have gained 30 HN credits.
- ◆ The candidate should undertake specific optional Units that are preferred by the target university or may articulate into second year.
- ◆ Articulation, whether formally established or not, is likely in all cases to require candidates to choose their optional Units wisely. Candidates should be advised to seek information at an early stage about which optional Units will make them eligible for consideration by individual HE institutions.
- ◆ The university may limit the degree programmes into which an HND graduate may be given articulated access.
- ◆ In order to help candidates progress to HE, centres need to become familiar with the requirements of various institutions and to offer advice that will help candidates to articulate successfully.
- ◆ To some extent the requirements of HE institutions may affect the choice of HN Units that are offered by centres. However, these are not the only factors that will affect these decisions.

3 Aims of the Group Award

3.1 General aims of HND Information Technology

The award in Information Technology has a range of broad aims, which are generally applicable to all equivalent Higher National awards. Some of these general aims are:

- ◆ To develop the candidate's knowledge and skills, such as planning, analysing and synthesizing.
- ◆ To develop employment skills and enhance candidates' employment prospects.
- ◆ To develop progression within the Scottish Credit and Qualifications Framework.
- ◆ To develop study and research skills.
- ◆ To develop transferable skills including Core Skills.
- ◆ To provide academic stimulus and challenge, and foster an enjoyment of the subject.

3.2 Specific aims of HND Information Technology

- ◆ To offer an up to date Information Technology (IT) award that reflects recent development in IT and enables candidates to gain skills that are in demand in the workplace.
- ◆ To offer routes to a range of university degree programmes in the area of Information Technology.
- ◆ To offer candidates the opportunity to work towards vendor qualifications.
- ◆ To offer a flexible qualification containing themes of Units across a range of IT related areas.
- ◆ To embed employability skills, including working in teams, problem solving, communication skills, personal and citizenship skills.
- ◆ To provide a qualification with a vocational and academic balance, that develops both practical IT skills and theoretical knowledge.
- ◆ To enable candidates to improve his/her Core Skills.

4 Access to Group Award

4.1 Access requirements for the Award

It is intended that admission to this course should be as broadly based as possible, but that this should be consistent with the selection of candidates who have a reasonable opportunity of successfully completing the course. The following entry requirements are given as guidelines only.

However, in addition to the following, each Higher National Unit specification includes recommended access levels. Candidates should normally satisfy both sets of access requirements.

As with all SQA qualifications, access is at the discretion of the centre and the recommendations are for guidance only.

Some examples of appropriate formal entry qualifications to the HND are specified. They are not prescriptive, exhaustive or mutually exclusive and may be offered in a variety of combinations.

- ◆ HNC Information Technology (entry to second year).
- ◆ Higher or Intermediate 2 Computing or Information Systems.
- ◆ Any other relevant Scottish Group Award at Intermediate 2 or Higher.
- ◆ Any two relevant National Courses at Higher together with three standard grade passes at level 3 or above.
- ◆ An SVQ at level 2 or 3 in Information Technology or other relevant area.
- ◆ Relevant National Units at appropriate level (example: Core Skills Units at Intermediate 1 or 2) combined with any of the above.
- ◆ Different combinations of relevant National Qualifications, Vocational Qualifications and equivalent qualifications from other awarding bodies may also be acceptable, as would suitable vendor qualifications at an appropriate level, for instance PC Passport or ECDL with Core Skills Units at Intermediate 1 or 2.

4.2 Alternative access arrangements

The presenting centre may operate alternative access arrangements in cases where the candidate is convinced s/he already has the required competences in a given area. These arrangements are as follows:

- ◆ Assessment on demand.
- ◆ Credit transfer.
- ◆ Accreditation of prior learning.
- ◆ Relevant work experience (mature candidates with suitable work experience may be accepted for entry provided the enrolling centre believes that the candidate is likely to benefit from undertaking and achieving the award.)

It is advisable for all candidates to possess prior knowledge of computing or Information Technology although no formal qualifications are necessary if suitable experience had been gained informally or via work experience. Such work experience may provide evidence of a candidate's skills and knowledge as they apply to particular HN Units or to the required Core Skills entry profile.

5 Group Award structure

5.1 Framework — HND Information Technology

A total of 30 credits must be achieved, comprising 240 SCQF points, to gain an HND and this must incorporate 64 SCQF points at SCQF level 8. An HND will normally include one Graded Unit of 8 SCQF points at SCQF level 7 and 16 SCQF points of Graded Unit(s) at SCQF level 8.

A total of 30 credits is required to gain the HND Information Technology award as follows:

18 credits must be gained by undertaking all Units in the HND Mandatory Units table (*Table 5*).

12 credits can be chosen from the HND Optional Units table (*Table 6*) or by selecting local options to make up the required 30 credits of the HND.

Embedded Core Skills or elements are shown below in the Unit titles in brackets.

UNIT TITLE	CODE	CREDIT VALUE	SCQF LEVEL
IT in Business: Databases	F84X 34*	1	7
IT in Business: Spreadsheets	HH83 34*	1	7
Working within a Project Team	DH21 34	1	7
Software Development: Applications Development	D76N 34	2	7
Database Design Fundamentals	DV6E 34	1	7
PC: First Line Support	DV6L 34	1	7
IT: Legislation and Codes of Practice	DX43 35	1	8
Project Management 1	DM30 35	1	8
Functional Areas of Business	DV6J 34	1	7
Internet: Web Technology and Security	DX42 35	2	8
SQL: Introduction	DH3J 34	1	7
Relational Database Management Systems	H16W 35*	2	8
Information Technology: Graded Unit 1	DV6D 34	1	7
Information Technology: Graded Unit 2	F0NA 35	2	8

*Refer to History of Changes for revision changes.

Table 6 — Optional Units			
UNIT TITLE	CODE	CREDIT VALUE	SCQF LEVEL
Developing Software: Introduction*	H173 34	1	7
Decision Support and Intelligent Systems	DX41 34	1	8
Computer Operating Systems 1	DH33 34	1	7
Computer Operating Systems 2	DM2X 35	1	8
Multi User Operating Systems	DH3A 34	1	7
e-Commerce: Introduction	DV6F 34	1	7
e-Marketing	DV6H 34	1	7
e-Commerce: Publishing Websites	DV6G 34	2	7
Computing: Planning	DH35 34	1	7
Software Development: Event Driven Programming	DH34 35	2	8
Systems Development: Introduction	H180 34*	1	7
Software Development: Developing Websites for Multiplatform Use	H1J9 35*	2	8
Multimedia: Developing Multimedia Applications	DH2R 34	2	7
Human Resource Management: Introduction	H1KP 34*	1	7
Marketing: An Introduction	F7BX 34	1	7
Recording Financial Transactions	HH81 33*	1	6
Using Financial Accounting Software	F7JP 34*	1	7
Management: Leadership at Work	H1F2 34*	1	7
Statistics for Business	F84K 35*	1	8
IT in Business: Advanced Spreadsheets	F849 35*	1	8
IT in Business: Advanced Word Processing	HH86 35*	1	8
IT in Business: Word Processing and Presentation Applications	HH84 34*	2	7
Supporting Users and Troubleshooting Desktop Applications	DM34 34	1	
Supporting Users and Troubleshooting a Desktop Operating System	DM35 34	2	7
Web Design: An Introduction*	H383 34	1	7
French for Work: Advanced Operational	F0J3 34	3	7
Spanish for Work: Advanced Operational	F0J9 34	3	7
Human Computer Interface	HF52 35*	1	8
Computing: PC Hardware and operating System Essentials	H17E 34	1	7
Getting Started in Business	DK2K 34*	1	7

*Refer to History of Changes for revision changes.

Table 6 — Optional Units			
UNIT TITLE	CODE	CREDIT VALUE	SCQF LEVEL
IT in Business: Word Processing, Spreadsheets and Databases: An Introduction	FG69 33*	1	6
Developing Skills for Personal Effectiveness	DF4D 33	1	6
Personal Development Planning	DE3R 34	1	7
Work Role Effectiveness (2003)	DG6E 34	3	7
OR Work Role Effectiveness (2003)	DG6G 35	3	8
Workplace Communication in English	H8T2 33*	1	6
Information Technology: Information Systems and Services	H1G0 34*	1	7
Information and Communication Technology in Business	HH87 35*	2	8
Computer Networks: Building Local Area Networks	H17C 34*	2	7
Digital Imaging: Bitmap Techniques	HF87 34*	1	7
Digital Imaging: Vector Techniques	HF86 34*	1	7
Digital Imaging: Bitmap and Vector	F1YX 34	1	7
Software Development: Programming in PL/SQL	F4TJ 34	2	8
Systems Development: Object Orientated Analysis and Design	H172 35*	2	8
Communication: Using Information Technology and Desktop Publishing	D7LW 34	1	7
Computer Hardware: Building a Network PC	DH2W 35	1	8
IT Infrastructure: Service Delivery	F0DY 35	1	8
IT Infrastructure: Service Support	F0E0 34	2	7
Configuring a Desktop Operating System	FK89 34	2	7
Troubleshooting a Desktop Operating System	FK8A 34	2	7
Managing a Desktop Operating System Deployment	FK88 35	2	8
Information Technology: Applications Software 1	D75X 34*	1	7
Developing Mobile Web Based Applications: An Introduction	HF4Y 34*	2	7
Digital Skills	H9DE 34*	1	8
Local Options: Unit(s) must be levelled by SQA (up to 4 credits)			

*Refer to History of Changes for revision changes.

Note: Optional Units are in coherent themes (see Pages 15-16), however centres can select any optional Units from any theme to satisfy local conditions.

5.2 Graded Units

The purpose of the Graded Units is to assess the candidate's ability to integrate and apply the knowledge and/or skills gained in individual Units, to demonstrate that they have achieved the specific aims as detailed in section 3.2 and to grade candidate achievement.

Candidates will take a 1 credit Graded Unit at level 7 in first year of study and a 2 credit Graded Unit at level 8 in the second year of study to gain the HND Information Technology award.

5.2.1 Rationale for Graded Unit assessment

As a mandatory part of the first year of the HND Information Technology, candidates will undertake an examination based Graded Unit, which is a single credit at SCQF level 7. This decision was taken at a consultation seminar in April 2005. The delegates were split into three groups: two agreed fully and one group had a 50/50 split. It was decided therefore, that as the majority decision from the practitioners was to make this Graded Unit an examination, this would be adopted for the first year of the HND award. This Graded Unit requires that the candidate undertake a three hour closed-book written examination.

For the second year of the HND there was a unanimous decision to present candidates with a two credit SCQF level 8 project based Unit. The project will be an independent piece of work and will involve three stages: Planning, Developing and Evaluating. The candidate will gather information to supplement the supplied case study, produce an outline plan of how to solve the problem, develop the plan, implement the solution and evaluate his/her work. The Core Skill, Problem Solving at Higher is embedded in this Unit.

5.3 Core Skills

This award has been designed using the new design principles and, therefore, the importance of Core Skills has been recognised and these Core Skills are developed throughout the award by embedding them within Units.

5.3.1 HND Information Technology Core Skills Entry and Exit levels

CORE SKILL	ENTRY LEVEL	EXIT LEVEL
Communication		
Oral Communication	5	6
Written Communication	5	6
Numeracy		
Using Graphical Information	4	6
Using Number	4	6
Information Technology	5	6

Table 7 — Core Skills Entry and Exit levels		
CORE SKILL	ENTRY LEVEL	EXIT LEVEL
Problem Solving		
Critical Thinking	4	6
Planning & Organising	4	6
Reviewing & Evaluating	4	6
Working with Others	5	6

Core Skills embedded

There is automatic certification of Core Skills as detailed below in Table 8. There are also further opportunities to gather evidence towards Core Skills or Core Skills components (see Appendix 4).

Table 8 — Embedded Core Skills				
Core Skill	Component	HN Unit	Level	Mandatory/Optional
Communication	Oral Communication	Working within a Project Team	H	M
	Written Communication	Working within a Project Team	H	M
	Oral Communication	Workplace Communication in English	Int 2	O
	Written Communication	Workplace Communication in English	Int 2	O
Numeracy	Using Graphical Information	Statistics for Business	H	O
	Using Number	Statistics for Business	H	O
Information Technology	Using Information Technology	IT in Business — Databases +	H	M
		IT in Business — Spreadsheets +	H	M
		Software Development: Applications Development (All three Units)	H	M

Table 8 — Embedded Core Skills				
Core Skill	Component	HN Unit	Level	Mandatory/ Optional
Problem Solving	Critical Thinking	PC: First Line Support	Int 2	M
	Planning and Organising	PC: First Line Support	Int 2	M
	Reviewing and Evaluating	PC: First Line Support	Int 2	M
	Critical Thinking	Developing Skills for Personal Effectiveness	Int 2	O
	Planning and Organising	Developing Skills for Personal Effectiveness	Int 2	O
	Reviewing and Evaluating	Developing Skills for Personal Effectiveness	Int 2	O
	Critical Thinking	Multimedia: Developing Multimedia Applications	H	O
	Planning and Organising	Multimedia: Developing Multimedia Applications	H	O
	Reviewing and Evaluating	Multimedia: Developing Multimedia Applications	H	O
Problem Solving (cont)	Critical Thinking	HND Information Tech Graded Unit 2	H	M
	Planning and Organising	HND Information Tech Graded Unit 2	H	M
	Reviewing and Evaluating	HND Information Tech Graded Unit 2	H	M
Working with Others		Working within a Project Team	H	M

5.4 Conditions of the Award

Candidates will be awarded an HND Information Technology on successful completion of 240 SCQF credit points which will include successful achievement of all the Units and the Graded Units in the mandatory section (A total of 30 credits must be achieved, comprising 240 SCQF points, to gain an HND and this must incorporate 64 SCQF points at SCQF level 8. An HND will normally include one Graded Unit of 8 SCQF points at SCQF level 7 and 16 SCQF points of Graded Unit(s) at SCQF level 8. A total of 30 credits is required to gain the HND Information Technology Award.)

5.5 Unit and Graded Unit specification

The Graded Unit specification can be found on the SQA website. The recommended timing for delivery should be towards the end of each academic year to allow candidates to be in the process of, or have completed the contributing Units for the Graded Units.

5.6 Supporting evidence

5.6.1 College consultation

Content removed.

5.6.2 Candidate consultation

Content removed.

5.6.3 Industry consultation

Content removed.

6 Approaches to delivery and assessment

6.1 Content and context

All of the listed Units may be delivered as standalone qualifications. They may also be included in other Higher National Group Awards as mandatory or optional Units. Where they are delivered within the HND IT framework they constitute a coherent, relevant programme to equip candidates with the knowledge and or/skills for the current and future working environment as evidenced by IT Insights: Skills Gap Analysis — Scotland. The options provide the candidate with the opportunity to choose options in specialist areas as shown in the Table 9 overleaf.

UNIT TITLE	Underpinning knowledge	Work Experience	Information Systems	e-Commerce	Development	It Support	Business Management
IT in Business: Word Processing, Spreadsheets and Databases: An Introduction	✓						
Developing Skills for Personal Effectiveness	✓						
Personal Development Planning	✓						
Work Role Effectiveness (2003) (level 7)		✓					
Work Role Effectiveness (2003) (level 8)							
Workplace Communication in English		✓					
Information Technology: Information Systems and Services			✓				
Decision Support Systems and Intelligent Systems			✓	✓			
Information and Communication Technology in Business			✓				✓
e-Commerce: Introduction				✓			✓
e-Marketing				✓			✓
e-Commerce: Publishing Websites				✓			✓
Computing: Planning					✓		

Table 9 — HND Optional Units Showing Themes							
UNIT TITLE	Underpinning knowledge	Work Experience	Information Systems	e-Commerce	Development	It Support	Business Management
Human Computer Interface					✓		
Software Development: Event Driven Programming					✓		
Systems Development: Introduction					✓		
Software Development: Developing Websites for Multiplatform Use					✓		
Multimedia: Developing Multimedia Applications					✓		
Human Resource Management							✓
Marketing: An Introduction							✓
Recording Financial Transactions							✓
Using Financial Accounting Software							✓
Management: Leadership at Work							✓
Statistics for Business							✓
Computer Operating Systems 1						✓	
Computer Operating Systems 2						✓	
Multi User Operating Systems						✓	
Supporting Users and Troubleshooting a Desktop Operating System						✓	
Supporting Users and Troubleshooting Desktop Applications						✓	

For example if the candidate had a specific interest in e-Commerce s/he could choose the e-Commerce options:

- ◆ *DV6F 34 e-Commerce: Introduction*
- ◆ *DV6H 34 e-Marketing*
- ◆ *DV6G 34 e-Commerce: Publishing Websites*

or

if a candidate was interested in the business area s/he could choose to undertake all Units from the Business options:

- ◆ *DN78 34/H1KP 34 Human Resource Management*
- ◆ *DE34 04 Marketing: An Introduction*
- ◆ *DP9F 33/F847 33 Recording Financial Transactions*
- ◆ *DE59 34 Using Financial Accounting Software*
- ◆ *DV6J 34/F7JP 34 Functional Areas of Business*

However, a cohesive grouping of optional Units could be chosen without a candidate choosing from only one set of options. For instance, if a candidate had an interest in marketing s/he may opt to undertake:

- ◆ *DE3C 34 Marketing: An Introduction*
- ◆ *DV6H 34 e-Marketing*

It is also recommended that a candidate takes note of which options Higher Education Institutions require.

The options allow for either a vocational, academic or specialist route for progression.

6.2 Core Skills signposting

Details on how Core Skills can be developed during these awards is given in Appendix 4.

6.3 Delivery and assessment

The assessment strategy of the design principles to encourage a more holistic approach to assessment has been adopted in the award. The new HN Unit specification design places the emphasis on reducing assessment load for candidates and centres by devising assessments which assess the entire theory content of the Unit where appropriate, and by sampling of knowledge and/or skills carried out under closed-book conditions on a random basis to ensure the candidates do not have prior knowledge of the sample.

Unit specifications detail exactly the Evidence Requirements and assessment procedures for each assessment event. Should centres wish to use a different mode of assessment from that recommended, they should seek prior moderation from SQA.

6.4 Open Learning and e-Learning

The awards may be delivered in different modes:

- ◆ Open Learning
- ◆ Distance Learning
- ◆ e-Learning

Use of e-assessment

The use of e-assessment is encouraged and could be managed in several ways. For instance, several Units have an Outcome that is tested by multiple choice questions.

The use of e-Portfolios and/or e-Logbooks is also encouraged.

Signposting of opportunities for e-assessment are identified in Appendix 4.

The awards may be delivered by open, distance or e-learning providing adequate preparations and control are in place. There is an intrinsic difficulty if specialised hardware or software is required, but companies, other agencies and the candidate himself/herself may be able to overcome this. While learning may often progress well, it may be the case with practical skills, that a centralised testing facility is needed, perhaps the Further Education Centre. Alternatively, an assessor may visit the candidate's work place and set the assessment. On some occasions a mix of conventional face to face and innovative delivery and assessment may be utilised. Whatever method is employed, additional planning and resources will be required for candidate support and assessment.

Quality assurance procedures must be sufficiently robust to fully support Open, Distance and e-Learning. Centres should consult the SQA publication: Assessment and Quality Assurance in Open and Distance Learning, SQA, February 2001 and SQA Guidelines on Online Assessment for Further Education, SQA, March 2003.

As well as the traditional face to face model, it is envisaged that wherever possible centres will deliver these awards in an integrative manner and the individual Unit specifications identify where this may be possible. An example of this could be:

- ◆ *DH35 34 Computing: Planning*
- ◆ *DH21 34 Working within a Project Team*
- ◆ *D76N 34 Software Development: Applications Development*

The overall assessment strategy under the Design Principles is to encourage a more holistic approach to assessment. The HN specification design place emphasis on assessing a whole Outcome or a combination of Outcomes rather than on performance criteria. The intention is to reduce the burden of assessment for both the candidates and the centre and therefore sampling of the knowledge and /or skills is encouraged in the Unit specifications.

For example:

- ◆ *D76N 34 Software Development: Application Development*

could be assessed by one holistic assessment.

6.5 Credit Transfer Transitional arrangements

Credit Transfer is used in lieu of the normal Evidence Requirements for a Unit.

Unit By Unit Transfer

Where a centre is in doubt about equivalences, advice should be sought from SQA. Once the equivalence between two Units is established, a candidate is not required to produce the normal evidence required for a Unit if s/he already possesses an 'equivalent' Unit.

The only evidence that the candidate requires to produce is evidence of completing the equivalent Unit (which is normally evidenced by production of their Scottish Qualifications Certificate, SQC). Centres must record proof of this (normally a photocopy of the candidate's SQC) for the purposes of internal and external moderation.

The Qualification Design Team in conjunction with the SQA Qualification Support Team carried out the identified mapping between Units. It should be stressed that the mapping is indicative and **the final decision for credit transfer arrangements is the responsibility of the centres. There is no automatic transfer of credit. The centres must enter the candidates for the new Units in the normal manner.**

6.6 General Information for candidates

Centres should provide candidates with a brief summary of the Group Award before they commence on their course of study. It should include information on what the Group Award is about, and provide information on the knowledge and skills which will be developed, what is involved in assessment and, in particular, the Graded Units, Core Skills, and the conditions of the award.

This would normally be presented as part of the information in a course handbook and should include information on the possible routes of progression in education or types of employment available for candidates obtaining the qualification.

6.7 Progression pathways

As mentioned earlier in this document the HND Information Technology is intended to act both as a vocational award and as an entry route to degree courses.

7 General information for centres

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

Internal and external moderation

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

External moderation 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 moderation can be found in *SQA's Guide to Assessment and Quality Assurance for Colleges of Further Education* (www.sqa.org.uk).

8 General information for candidates

The HND Information Technology offers a wide range of Information Technology skills that can be applied in different areas in the workplace.

Proposed Client Groups:

- ◆ Full and part-time students wishing to gain employment, and aspire to supervisory level, in the area of Information Technology and Information Systems.
- ◆ The award is targeted at candidates who wish entry to follow a career in Business Applications using Relational Database Management Systems technology and who wish to become Database Administrators or to act in a supervisory capacity tailoring and or writing scripts to automate aspects of Information Technology Applications for users with less expertise.
- ◆ Full and part-time students wishing to gain employment, at supervisory level, in the areas of Information Technology and Information Systems, for example database administrators, using relational database systems to develop business applications, or writing scripts to automate aspects of Information Technology applications.
- ◆ Individuals who wish to progress to degree programmes in Information Technology and IT and Business related disciplines.

The award would also suit candidates who are mature returners seeking employment in Information Technology related jobs.

On completion of this award the candidate should be able

- ◆ To offer an up to date Information Technology (IT) award that reflects recent development in IT and enables candidates to gain skills that are in demand in the workplace.
- ◆ To offer routes to a range of university degree programmes in the area of Information Technology.
- ◆ To offer candidates the opportunity to work towards vendor qualifications.
- ◆ To offer a flexible qualification containing clusters of units across a range of IT related areas.
- ◆ To embed employability skills, including working in teams, problem solving, communication skills, personal and citizenship skills.
- ◆ To provide a qualification with a vocational and academic balance, that develops both practical IT skills and theoretical knowledge.
- ◆ To enable candidates to improve his/her Core Skills Profile.

In designing the award, the designers have been fully aware of the need for the qualification to contain relevant technical and transferable skills to enable immediate entry to employment while at the same time allowing articulation to degree courses. The Design Team believe that an appropriate balance between academic and vocational knowledge and skills has been achieved through the mix of unit content and teaching approaches. Care has been taken in the design of the curriculum of these awards to ensure that topics and units required to maintain articulation routes are included.

Articulation agreements are already in place for the existing locally devised HND Information Technology awards and it is expected that similar agreements will be established for the new award.

The new Higher National Diploma in Information Technology is nationally devised and will be delivered across Scotland. Like Standard Grades and Highers it will be a nationally delivered, assessed and recognised qualification. Like all new Higher National programmes the Qualification Design Team engaged representatives from Higher Education.

The HND Information Technology award is designed to allow the candidate to progress to a degree in a related area.

Some examples of articulated entry to a degree programme are shown below:

HE INSTITUTION	DEGREE
Abertay University	BSc (Hons) Information Systems BSc(Hons) Web Design and Development BSc(Hons) Computing (All stage 3)
Bell College	BA Business Information Management (Stage 3)
Robert Gordon University	BSc(Hons) Information Technology (Stage 3)
University of Aberdeen	BSc Internet Information System (Stage 3)
Caledonian University	BA/BA(Hons) Business Information Management BA/BA(Hons) Electronic Business (All stage 3)
Napier University	BSc Information Systems (Stage 3)

It is possible for a candidate to articulate directly to the third year of some university degree programmes. Typically articulation will be limited by the following:

- ◆ Candidates would normally need to have gained 30 HN credits
- ◆ The candidate should undertake specific optional units that are preferred by the target university or may articulate into second year.

Articulation, whether formally established or not, is likely in all cases to require candidates to choose their optional units wisely. Candidates should be advised to seek information at an early stage about which optional units will make them eligible for consideration by individual HE institutions. The university may limit the degree programmes into which an HND graduate may be given articulated access.

9 Glossary of terms

SCQF: This stands for the Scottish Credit and Qualification Framework, which is a new way of speaking about qualifications and how they inter-relate. We use SCQF terminology 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 credits: One HN credit is equivalent to 8 SCQF credit points. This applies to all HN Units, irrespective of their level.

SCQF levels: The SCQF covers 12 levels of learning. HN Units will normally be at levels 6–9. 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.

Graded Unit: Graded Units assess candidates' 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 candidates to retain and adapt their skills and knowledge.

Dedicated Core Skill Unit: This is a non-subject Unit that is written to cover one or more particular Core Skills.

Embedded Core Skills: This is 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.

Signposted Core Skills: This refers to the opportunities to develop a particular Core Skill at a specified level that lie outwith automatic certification.

Qualification Design Team: The QDT works in conjunction with a Qualification Manager/Development Manager to steer the development of the HNC/D from its inception/revision through to validation. The group is made up of key stakeholders representing the interests of centres, employers, universities and other relevant organisations.

Consortium-devised HNCs and HNDs are those developments or revisions undertaken by a group of centres in partnership with SQA.

Specialist single centre and specialist collaborative devised HNCs and HNDs are those developments or revisions led by a single centre or small group of centres who provide knowledge and skills in a specialist area. Like consortium-devised HNCs and HNDs, these developments or revisions will also be supported by SQA.

10 Appendices

Appendix 1: National Occupational Standards

Appendix 2: Core Skills Signposting grid

Appendix 3: Vendor qualifications

Appendix 4: Opportunities for e-assessment

Appendix 1

NATIONAL OCCUPATIONAL STANDARDS

This appendix contains a mapping, in broad terms, between Higher National (HN) Units and National Occupational Standards (NOS) for practitioners and users developed by e-skills NTO (formerly ITNTO). The NOS Area of Competence (AOC) was taken from the NOS developed for the Information and Communication Technologies areas, published in 2004. While it is not intended to presume credit transfer between the awards, there may be opportunity to transfer credit from NOS to HN Units depending on whether:

- ◆ The AOCs relate to similar knowledge and skills.
- ◆ The AOCs are contemporary in terms of terminology, techniques and technology.
- ◆ The AOCs present a similar level of cognitive demand. (This should be determined using a recognised taxonomy, such as Bloom's.)
- ◆ The range of activities is similar in both Outcomes.
- ◆ The standard of performance is equivalent in both Outcomes.
- ◆ The assessment demands are similar in terms of candidate activity and performance criteria, or candidates would be equally likely to pass both assessments.
- ◆ Special conditions, (such as the location of assessment; for example, some NOS require assessment to take place in the workplace) where they exist, are applicable to both Outcomes.

The level of AOC has been determined by using the Scottish and Qualifications Framework (SCQF), which brings together all Scottish mainstream qualifications into a single, unified framework. An excerpt of this is shown in the Table 1 below, where the SVQ level has been estimated from inspection of NOSs.

Table 1			
SCQF level	SQA National Units, Courses & Group Awards	Higher Education	SVQs & level
8		Higher National Diploma Diploma in Higher Education	4
7	Advanced Higher Certificate in Education	Higher National Certificate	
6	Higher		3
5	Intermediate 2 Credit Standard Grade		2

‘The positioning of SVQs in the table gives a broad indication of their place in the framework. Like most Group Awards, SVQs are likely to be made up of Units at a number of levels. The current placing of SVQ 3 at level 6 is based on the way in which SVQs are positioned in statutory documents and national targets. However there is a view that in some sectors, SVQ 3 could be placed at level 7. A project to refine the position of SVQs in the framework reported in January 2003, and the recommendations from it are being taken forward at UK level.’ (Quoted from Scottish Qualifications Authority, 28th January 2004 See web address www.sqa.org.uk/sqa/sqa_nu_display.jsp?pContentID=4608&p_applic=CCC&p)

In Tables 2 to 8 following, AOC level 4 has been used for the mapping exercise. However if a level 4 AOC does not exist for the NOS, a level 3 AOC has been utilised if the said AOC seems to be similar in content and nature to the HN Unit Outcome(s) being mapped.

Depending on how the following Units are taught by centres, it is considered that it is possible to transfer credit from the NOS to the HN Units. The smallest element of credit transfer is an Outcome. Sub-Outcome components are not accredited.

Unit Title: Computing: Planning

Unit Code: DH35 34

Table 2		
National Occupational Standard AOC	Elements Knowledge and Understanding Skills and Techniques	Outcome(s) in this Unit
Investigating and Defining Requirements (level 4)	Obtain and analyse client/customer information to identify system requirements. Understanding relevant client/customers needs and constraints and analysing information to identify these. Awareness of defects, which can arise in information. Checking identified needs, constraints and priorities with client/customer. Clearly recording the results of analyses to agreed formats. Producing requirements definitions.	1

Unit Title: Software Development: Event Driven Programming

Unit Code: DH34 35

Unit Title: Software Development: Developing for the World Wide Web

Unit Code: DH32 35

(Unit(s) mapping dependant on programming language(s) used. Both NOS are utilised to achieve HN Unit Outcomes.)

Table 3		
National Occupational Standard AOC	Elements Knowledge and Understanding Skills and Techniques	Outcome(s) in these Units
Software Development — Design (level 4)	<p>Create Designs and test specifications for software.</p> <p>Knowledge of what software development procedures are applicable to projects. The contents of requirements definitions, software designs, test specifications. Functionality and capability of available runtime environments. Interpretation of requirements definitions. Creation of software designs, technical architecture, test specifications, selection and defining appropriate runtime environments. Following relevant organisational software development procedures.</p>	1, 2, 3
Software Development Component Creation (level 3)	<p>Create Software from given specifications.</p> <p>Knowledge of the syntax and constructs of the programming language(s) in use, use of available pre-defined functions of said programming languages(s).</p> <p>Creation of detailed designs for software from given specifications. Creation of software components, building, testing and debugging software. Using software development environment(s) effectively.</p> <p>Selection of meaningful identifiers for all components and constituent parts.</p>	

Unit Title: Database Design Fundamentals

Unit Code: DV6E 34

Table 4		
National Occupational Standard AOC	Elements Knowledge and Understanding Skills and Techniques	Outcome(s) in this Unit
Data Analysis and Data Structure Design (level 3)	Fields: types, properties Entities: identification, naming, relationships, identification, naming, attributes, normalisation, keys, indices, notation for data modelling Client requirements, Entry points, access paths, navigation. Data and access volumes Production of data dictionaries	1

Unit Title: Developing Skills for Personal Effectiveness

Unit Code: DF4D 33

Table 5		
National Occupational Standard AOC	Elements Knowledge and Understanding Skills and Techniques	Outcome(s) in this Unit
Develop Personal and Organisational Effectiveness (levels 3 & 4)	Role of the individual, personal attributes, impact on effectiveness at work, identification of own development needs, development plan.	1

The following NOS for users at level 3 were mapped against HN Units, though according to Table 1 this would not seem appropriate at this time. However, it may be appropriate in the future if level 3 SVQ/NVQs were positioned at level 7 in the SCQF framework.

**Unit Title: IT in Business: Word Processing, Spreadsheets and Databases:
An Introduction**

Unit Code: DE24 33

Table 6		
National Occupational Standard AOC	Elements Knowledge and Understanding Skills and Techniques	Outcome(s) in this Unit
Word Processing Software	Complex word processed documents Integration with other packages	1, 4
Spreadsheet Software	Technically complex spreadsheets Integration with other packages	2, 4
Database Software	Database Design, modification, entering, editing, sorting data, production of reports, queries Integration with other packages	3, 4

Unit Title: IT in Business: Spreadsheets

Unit Code: DE1M 34

Table 7		
National Occupational Standard AOC	Elements Knowledge and Understanding Skills and Techniques	Outcome(s) in this Unit
Spreadsheet Software	Production of information that is well structured and fit for its purpose Production of technically complex spreadsheets	1
	Analysis and interpretation of complex data	2
	Creation and extensive formatting of a wide range of charts	3
	Using appropriate formulae and functions in technically complex spreadsheets	

Unit Title: IT in Business: Databases

Unit Code: DE1N 34

Table 8		
National Occupational Standard AOC	Elements Knowledge and Understanding Skills and Techniques	Outcome(s) in this Unit
Database Software	Principles of database design, including purpose, use and structure Multiple table databases. Field characteristics — examples: attributes, primary key, relationships, data integrity Principles of database design, including purpose, use and structure. Entering, formatting data Queries Reports	1

Centre recruiting staff may find it beneficial to study the prospective HND candidate's portfolio of work to ascertain levels of achievement incorporated in the said portfolio. As NOS level 3 is not considered to be equivalent to SCQF level 8, no attempt has been made to map Level 3 user NOS against SCQF level 8 HN Units. However it may be that a candidate has some outstanding work where a NOS level 4 does not exist. This would not preclude a candidate from accessing credit transfer. For instance, if a candidate was in possession of NOS, Specialist or Bespoke Software, or if the candidate had used an accounting application, again, he/she may achieve all or part of DE59 34 *Using Financial Accounting Software*.

RECOMMENDED ENTRY LEVEL NOS

While it is recognised that the holder of a level 3 SVQ/NVQ for IT users does not assume that the candidate has achieved all elements of the award at level 3 (as in addition to higher level tasks, his/her role in the workplace may also include some at lower levels) the mandatory Unit value would be level 3 and at least 50% of the Unit value of the optional Units at level 3. (S/NVQ Qualification Structure for IT Users, 27 November 2003). This may be regarded, depending on the centre, as entry qualification to the HND award.

A group of relevant NOS (practitioner's Units) at level 3, again at the discretion of each centre, may also be considered as entry level to the HND award.

RECOMMENDED EXIT LEVEL NOS

As the NOSs were designed to be delivered in the workplace, candidates who had achieved an HND award could be recommended to any of the NOSs detailed above where the NOS possessed a level 5 AOC.

However depending on the area of work the said candidate entered he/she may be recommended to undertake the following NOS Imported Unit(s) which are broadly

based and common to the more responsible occupations within many types of employment.

Managing People and Resources	level 5
Managing Quality	level 5
Project Management	level 5
Supporting Learning and Development	level 5

CONCLUSION ON MAPPINGS

Perhaps not surprisingly, it would appear that there are some matches between HN Units and NOSs.

To aid candidate entry to the HND award it is recommended that staff advising candidates on entry levels to HN awards take work based NOSs into account to place the candidate on the level of course where s/he is most likely to make progress.

Especially in the case of candidates who already have occupations in Computing or IT, it would be helpful to candidates if they were advised of NOSs towards which they might focus their ambition.

In short, national standards should be used to help candidates to enter HN education, and HN Units and awards, once achieved, should where possible be used to help candidates gain further recognition within national standards.

Appendix 2

CORE SKILLS SIGNPOSTING GRID

There may be opportunities to gather evidence towards Core Skills or Core Skills components in the following Units.

Unit Title	Communication	Information Technology	Numeracy	Problem Solving	Working With Others
Database Design Fundamentals	✓				
IT in Business: Word Processing, Spreadsheets and Databases: An Introduction		✓	✓		
Developing Skills for Personal Effectiveness				✓	
Personal Development Planning				✓	
Work Role Effectiveness (2003) level 7	✓				
Information Technology: Information Systems and Services	✓	✓			
Decision Support and Intelligent Systems	✓	✓			
SQL: Introduction		✓			
e-Commerce: Introduction		✓			
e-Marketing		✓			
e-Commerce: Publishing Websites		✓			
Computing: Planning				✓	
Human Computer Interface		✓			

Unit Title	Communication	Information Technology	Numeracy	Problem Solving	Working With Others
Software Development: Event Driven Programming		✓		✓	
Systems Development: Introduction				✓	
Software Development: Developing for the World Wide Web		✓		✓	
Computer Operating Systems 1		✓			
Multi User Operating System		✓			
Human Resource Management	✓				
Marketing: An Introduction	✓				
Recording Financial Transactions				✓	
Using Financial Accounting Software		✓			
Functional Areas of Business	✓				
Statistics for Business			✓		
Management: Leadership at Work	✓				
IT: Legislation and Codes of Practice	✓	✓			
Project Management 1		✓		✓	
Internet Web Technology and Security		✓			
IT in Business: Advanced Spreadsheets		✓	✓		

Unit Title	Communication	Information Technology	Numeracy	Problem Solving	Working With Others
IT in Business: Advanced Word Processing	✓				
Software Development: Relational Database Systems		✓		✓	
Work Role Effectiveness (2003) level 8	✓	✓		✓	✓
Information and Communication Technology in Business		✓			
Computer Operating Systems 2		✓		✓	
Supporting Users and Troubleshooting a Desktop Operating System		✓		✓	
Supporting Users and Troubleshooting Desktop Applications		✓		✓	

Appendix 3

VENDOR QUALIFICATIONS

INTRODUCTION

Professional Development Awards (PDAs) may be seen as a way of enhancing the functional usefulness of the qualifications offered to HNC and HND candidates. Because they are offered by technical vendor companies, they improve the employment prospects of those who achieve them.

They also mean that employed computer professionals who hold such awards may be attracted to an HN Information Technology course because any PDAs they hold which are recognised by the SQA can give them immediate accreditation of HN Units and thus reduce the amount of work required in order to achieve their target HN award.

While PDAs may be seen as an added bonus to a candidate, two principles in their delivery must be understood:

- 1 Recognition is a 'one-way street'. While achievement of PDAs will provide students **automatically** with one or more pre-specified HN Units; the reverse is not true. The vendors promoting the various qualifications listed in this appendix **will not** award the PDA on the grounds that the candidate has achieved the matching HN Units. In all cases so far negotiated, the student **MUST** pass the vendor's own examination(s) or other assessment(s).
- 2 This means that PDAs must be studied in a manner, which will enable students successfully to attempt the vendor examination(s) and this might affect overall course design. Because some HN Computing candidates may not wish to follow them, PDAs should not lead a centre's design of HN courses. They should only be offered if they 'fit' neatly into an HN Computing program which would suit the majority of candidates.

OUTLINE OF THE PROPOSED PDAs

This proposal outlines the potential inclusion of vendor certification within the SQA Higher National Award within the HNC/HND Information Technology frameworks.

The Professional Development Awards (PDAs) have been designed to closely match the vendor certification examinations. The vendor supplied courseware is sufficient for the candidate to achieve the respective SQA Units.

The inclusion of the PDA Units in the HN Information Technology framework(s) would allow full time (and part time) students to achieve the combination of vendor and national qualifications. This might encourage, for example, part time students enter full time training via an attractive vendor route.

It must be stressed at this point that, although the PDAs have been designed with vendor provision in mind, the Units involved are generic and can be delivered without any vendor involvement if the student client and/or delivering College so wish.

The inclusion of the PDAs outlined in this document is highly recommended to meet student, employer and College demand.

Microsoft Based PDA

CERTIFICATE IN DESKTOP SUPPORT

In this 2 credit value PDA, students are required to take both core Units.

Core Units

Unit Number	Unit Title	Vendor exam	Credit value	SCQF level
DM34 34	Supporting Users & Troubleshooting a Desktop Operating System	70-271	2	7
DM35 34	Supporting Users & Troubleshooting Desktop Applications	70-272	1	7

PDA PRE-REQUISITES

None

VENDOR COVERAGE

This PDA covers the knowledge and understanding for the examinations of Microsoft Certified Desktop Support Technician.

If the candidate successfully passes the vendor examinations associated with this PDA, then Microsoft Certified Desktop Support Technician will be obtained.

ORACLE BASED PDAs

If a candidate has undertaken an official Oracle Database Programming course there may be an opportunity of Accreditation of Prior Learning (APL). Centres should be sensitive to opportunities for candidates for APL or credit transfer. Any mapping and/or evidence should be gathered and held by the centre in case of external moderation.

Accreditation of Prior Learning (APL)

It should be recognised by centres presenting the Higher National Awards in Information Technology that if a candidate presents him/herself for entry into an HND programme then he/she should be credited for the SQA Units detailed in this section if he/she is in possession of an appropriate vendor qualification. Depending on the vendor qualification(s) gained the potential candidate may be allowed entry to HNC/D Information Technology.

While a candidate may and should receive APL for SQA HN Units related to a vendor qualification, the same Units are not accredited by the vendor(s) and therefore Higher National candidates who achieve HN Units must undertake the relevant vendor examination(s) to receive the vendor qualification(s).

Details of Vendor PDAs can be found on the Scottish Qualifications Authority website.

Conclusion

As can be seen from market research carried out in the Further Education Sector, it would appear that there is some enthusiasm for these awards. This is evidenced by the number of centres 'signing up' to become Microsoft Academies.

It would appear that vendor qualifications would give 'added value' to an HND award. However it should be made clear, that the candidate has the extra burden of vendor examinations and fees.

To achieve any one of the PDAs, the candidate must take and pass the examination(s) set by the vendor. With the award of the PDA will come SQA accreditation for the respective Units.

At present, there is little likelihood that the vendor organisations will accredit students who achieve the respective Higher National Units detailed in this section. In other words, accreditation only moves one way under this scheme.

Perhaps in the future, when the vendor qualifications are 'bedded down' in the HN awards, accreditation of prior learning may be as acceptable to the vendors as it is to SQA.

Appendix 4

OPPORTUNITIES FOR e-ASSESSMENT

As part of an assessment strategy, it makes sense 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 (most frequently Multiple Choice tests), and some SQA Units already have an Evidence Requirement mandating the use of this type of test.

This section notes the Units where the possibility of e-assessment exists, and speculates on which may be suitable in the near future.

Multiple choice e-assessment opportunities.		
Unit Title	Code	Outcome
PC: First Line Support	DV6L 34	1
Information Technology: Information Systems and Services	DH37 34	1, 2
Software Development: Event Driven Programming	DH34 35	2 (part)
Software Development: Developing for the World Wide Web	DH32 35	3 (part)
Graded Unit: Examination	DV6D 34	Section 1 (part)

e-portfolio opportunities			
Unit Title	Code	Outcome	Type
Working within a Project Team	DH21 34	1	Project Proposal
Working within a Project Team	DH21 34	2	Project Documentation
Working within a Project Team	DH21 34	3	Project Report
Developing Skills for Personal Effectiveness	DF4D 33	1 and 3	Action Plan
Personal Development Planning	DE3R 34	1 and 2	Personal Development Portfolio
Personal Development Planning	DE3R 34	3	Personal Appraisal Report
e-Commerce: Introduction	DV6F 34	1, 2 and 3	Case Study

The following table signposts further e-assessment opportunities.

Unit title	Multiple choice/multiple response questions	e-Portfolio	e-Log book
IT in Business: Databases		✓	✓
IT in Business: Spreadsheets		✓	
Working within a Project Team		✓	
Software Development: Applications Development		✓	
PC: First Line Support			✓
Graded Unit: Examination	✓		
IT in Business: Word Processing, Spreadsheets Databases: An Introduction		✓	
Developing Skills for Personal Effectiveness		✓	
Personal Development Planning		✓	
Work Role Effectiveness (2003)		✓	
Information Technology: Information Systems and Services	✓	✓	
Decision Support and Intelligent Systems	✓	✓	
SQL: Introduction		✓	
e-Commerce: Introduction		✓	
e-Marketing	✓	✓	
e-Commerce: Publishing Websites		✓	
Computing: Planning		✓	
Human Computer Interface		✓	
Software Development: Event Driven Programming		✓	
Systems Development: Introduction		✓	
Software Development: Developing for the World Wide Web		✓	
Computer Operating Systems 1			✓
Multi User Operating System			✓
Human Resource Management	✓		

Unit Title	Multiple choice/multiple response questions	e-Portfolio	e-Log Book
Marketing: An Introduction	✓		
Recording Financial Transactions		✓	
Using Financial Accounting Software		✓	
Functional Areas of Business	✓		
Management: Leadership at Work		✓	
Statistics for Business		✓	
IT: Legislation and Codes of Practice		✓	
Project Management 1	✓	✓	
Internet: Web Technology and Security	✓	✓	
IT in Business: Advanced Spreadsheets	✓	✓	
Software Development: Relational Database Systems		✓	
Work Role Effectiveness (2003)		✓	
Information and Communication Technology In Business	✓	✓	
Computer Operating Systems 2		✓	✓
Supporting Users and Troubleshooting a Desktop Operating System		✓	✓
Supporting Users and Troubleshooting Desktop Applications		✓	✓