



**Higher National and Graded Units**

**Qualification Verification Summary Report 2017**

**Computer Science**

## Introduction

This report covers visiting HN verification activity to three centres in which a number of units were selected. Also included in the report, at HN level, is visiting verification of graded unit projects. The units verified are listed below.

This report also covers NQ visiting verification.

NQ activity within this group was very active. There are two main blocks covered in this area. Work-based assessment within Diplomas (SVQ replacements) such as the Diploma for Information Technology and Telecommunications Professionals, and the Diploma in Digital Application Support. This block is categorised as N-W. Within this block 15 visiting events took place. The majority of these events were to private training providers, although there are also a number of colleges within this block.

The other block within this group is N-HS, which covers units within NC group awards such as NC Computing with Digital Media and NC Computer Games. These were mainly delivered within the college sector and a total of seven visiting verification events took place.

Almost all verification activity had a positive outcome, and it was noted that centres are performing well and demonstrate a sound understanding of SQA units and quality assurance criteria.

Activity was affected by the industrial action taken by college staff. Despite the need for rearranging of visit dates there was little impact on standards or the quality of evidence presented at visits. Thanks must go to centre staff for ensuring that the visits took place and that evidence was available and presented at a time of increased workload.

## Units verified

### Visiting HN

H171 35	Software Development: Object Oriented Programming
H172 35	Systems Development: Object Oriented Analysis and Design
H17X 34	Software Development: Programming Foundations
H175 34	Computer Systems: Development Fundamentals
DH3J 34	SQL: Introduction
H16W 35	Relational Database Management Systems
H173 34	Developing Software: Introduction
HF4X 34	Client Side Scripting for Web Applications
DV6E 34	Database Design Fundamentals
H1J9 35	Software Development: Developing Websites for Multiplatform Use
H175 34	Computer Systems Fundamentals
H16T 35	Network Server Operating Systems
DF9L 33	Operating System Concepts

## Visiting Graded Units

H48W 35	Computing Software Development: Graded Unit 2
H4LF 35	Interactive Media: Graded Unit 2
H4L6 34	Computer Games Development: Graded Unit 1

## Units verified (N-HS)

F1K0 10	Computing: Programming in a High-level Language - Fundamentals
H3LJ 09	Computer Basics
H223 75	Software Design and Development
H226 75	Information System Design and Development
H6S9 46	Computing: Applications Development
F915 10	Computer Games: Design
H2P5 11	Programming for Mobile Devices
H6S7 44	Computing: Project
DF2Y 11	Software Development
DF2X 11	Computer Systems
F915 11	Computer Games: Design
F916 11	Computer Games: Media Assets
F917 11	Computer Games: Development

## Work-based assessment units (N-W)

H3AC 04	Object Oriented Programming 3
H7CP 04	Principles of Information Governance and Assurance 2
H3A2 04	Managing Software Development 2
F9D5 04	Website Software
H3BL 04	Introduction to IT & Telecoms Systems Development
H3BF 04	Systems Architecture 2
H3B3 04	Technical Advice and Guidance 2
H3BB04	Data Modelling 2
H3BH 04	Web Development 1
H3BJ 04	Web Development 2
H3BM 04	Software Design Fundamentals
H39J 04	Interpersonal and Written Communications 2
H3BM 04	Software Design Fundamentals
H3AE 04	Procedural Programming 2
H3AF 04	Procedural Programming 3
H3C5 04	Health and Safety in IT and Telecoms
H3C4 04	Personal Effectiveness 2
F9A7 04	Using Collaborative Technologies 2
H3AV 04	Testing IT and Telecoms Systems 2

## **Category 2: Resources**

### **Criterion 2.1: Assessors and internal verifiers must be competent to assess and internally verify, in line with the requirements of the qualification.**

(This criterion should be completed for regulated qualifications only.)

This criterion was not required to be verified within block N-HS or HN. However, for N-W Block this criterion is required to be reviewed.

Where this criterion was reviewed staff were suitably qualified and either in possession of an assessor verifier award or working towards one. All staff were aware of the qualifications requirements within the assessment strategy and evidence was available which showed qualifications and current CPD. Some very detailed CPD was presented to verifiers and some of this was directed towards updating L&D standards.

The range of assessor and verifier awards was quite varied but nonetheless relevant. Most common were the L&D awards.

Where this was not required to be verified some centres provided evidence of departmental CPD being carried out. Verifiers have commented where this evidence has been seen.

### **Criterion 2.4: There must be evidence of initial and ongoing reviews of assessment environments; equipment; and reference, learning and assessment materials.**

Centres are carrying this out effectively. Evidence has been presented in the form of master pack and supporting evidence such as team minutes and more formal review.

Many centres make use of checklists which show consideration of each of the items under this criterion and evidence suggests that standardisation meetings are being held and documented. In some instances there is evidence that assessment instruments and learning, reference and teaching materials are all checked in terms of equalities. This is based on Quality and Equality of Learning and Teaching Materials (QELTM) guidelines.

Most centres make extensive use of Virtual Learning Environments (VLEs) for delivering learning materials. These are regularly updated to ensure that they are relevant and up to date. They are also used to cater effectively for learning needs, as the material on them can be accessed in a variety of formats.

There was evidence that, for database units, most centres use Oracle materials. To ensure access, a few centres have hosted copies of these on their VLEs

In terms of equipment resources these meet the requirements of the awards and are regularly reviewed and updated, generally on a rolling programme.

**N-W**

Where work-based assessment is carried out, it was possible to review site selection lists and employer checklists held within a candidate portfolio. This was reported by many verifiers.

In almost all cases, evidence was available to verifiers of working in partnership with employers to review resources. The resources available had an impact on the units that were selected within diplomas, so that these were relevant to a job role and to meeting the needs of employers.

In almost all cases, learning materials were reviewed on a regular basis, as were classroom learning resources such as hardware and software.

Work-based assessment is reviewed to ensure that a job role will allow candidates to generate appropriate evidence. In most cases, this review is carried out in conjunction with employers.

## **Category 3: Candidate support**

### **Criterion 3.2: Candidates' development needs and prior achievements (where appropriate) must be matched against the requirements of the award.**

Verifiers have reported that centres are very effective in selection of candidates and matching to appropriate courses. This also demonstrated a high level of candidate support and a candidate-focused approach.

All centres visited demonstrated a thorough approach to selection. This involved some form of screening, which gave a good indication of course level, that would best meet the needs of the applicant. This also involved taking into consideration prior learning. In almost all cases, this ensured that the candidates were well matched to the qualification.

All centres demonstrated a commitment to recognition of development needs. Initial requirements for additional support needs are referred to specialist support teams,

All centres delivering database units have a credit transfer process between Oracle and SQA units. This was found to be carried out effectively, and was supported by the verification review process.

Where discussion with candidates took place, confirmation was provided that the support that is available is well understood by all.

### **Criterion 3.3: Candidates must have scheduled contact with their assessor to review their progress and to revise their assessment plans accordingly.**

Within college-based visits evidence confirmed that all classes are timetabled, but in addition to this, candidates have additional contact with assessors outwith class times. This can be either formal or on an informal basis, as required.

Centres make good use of VLEs for providing feedback on assessment and progress, and this allows both assessor and candidate to track progress and arrange for remediation and re-assessment. Alternatives to VLEs such as Google Drive were also in use for tracking purposes.

In a very few instances a one hour weekly tutor slot is scheduled where guidance and extra support is given, which can help increase the candidate's chance of success on the course.

#### **N-W**

Within training providers, candidates have face-to-face contact with their assessor. The frequency of face-to-face contact varies from 2 – 6 weeks, but all candidates have alternative means of contact such as phone/Skype contact or e-mail.

In some cases, very effective use is made of communication through e-portfolios. These allow candidates to review their progress, and they can be shared with employers.

In some cases, training providers will schedule additional training sessions, if required, to fill gaps in knowledge and skills.

## **Category 4: Internal assessment and verification**

### **Criterion 4.2: Internal assessment and verification procedures must be implemented to ensure standardisation of assessment.**

In all cases, there is evidence that assessment and verification procedures are being carried out. In almost all cases, it is evident that these are being carried out effectively. Verifiers have seen records of standardisation meetings taking place and internal verification documentation being completed appropriately. Centres are operating a three-stage process and pre-delivery checks were being carried out to ensure that assessment is fit for purpose. This is done even when SQA-produced assessment is being used.

Evidence suggests that internal verification is being carried out effectively and in line with centre procedures and policy.

In work-based units, verification is carried out on a continuous basis and good evidence was seen of verification decisions being made.

### **Criterion 4.3: Assessment instruments and methods and their selection and use must be valid, reliable, practicable, equitable and fair.**

Extensive use is made of SQA-produced Assessment Support Packs (ASPs) for HN units and Graded Unit 1. Verifiers reported that these were reviewed at centres to ensure that they met the principles of assessment. In some cases, centres have devised alternative assessments and these were found to be appropriate, and verifiers confirmed that they had been through appropriate checks and processes.

In Graded Unit 2 projects, verifiers reported that the ASP shell had been used and that marking schemes were further developed for allocation of marks. In all instances of graded units, candidates were encouraged to develop their own project ideas. This allowed candidates to take ownership of their work, and this also provided a greater level of motivation.

In a few instances, evidence was available that showed that assessment was being integrated with similar units. Where this happens it is clearly documented to show outcome and unit coverage.

Some centre-devised assessments had been used. This is generally where no SQA instrument of assessment is available, or when an additional attempt is required for re-assessment. Where these had been used there was clear evidence of pre-delivery checks of the material taking place.

Where evidence is generated in the workplace this was found to be appropriate to meet the requirements of the units, and was generally of a high standard.



**Criterion 4.4: Assessment evidence must be the candidate's own work, generated under SQA's required conditions.**

In all cases, evidence shows that assessment meets the conditions of assessment stipulated in the unit specification.

In all cases, evidence was seen of centres having a Malpractice Policy and that this is being adhered to effectively. Evidence was seen of submission forms being completed and of declarations of own work being used.

Centres also confirmed that traditional methods of authenticity such as oral questioning took place where there was doubt. This method was generally used in graded unit projects.

Verifiers saw evidence of electronic assessment being used and extensive use of authenticating software (Turnitin).

Candidates are made aware of plagiarism and its meaning; this is generally carried out at the induction stage. Policies for staff detail clear responsibilities and procedures to follow if malpractice is suspected, and this is reiterated in student handbooks.

A number of electronic assessments were seen and verifiers confirmed that these were suitably authenticated.

**Criterion 4.6: Evidence of candidates' work must be accurately and consistently judged by assessors against SQA's requirements.**

In almost all cases, verifiers reported that marking decisions were consistent and met the requirements of the assessment. In almost all cases this was confirmed by the verification process. (In a few instances, candidate evidence had not yet been internally verified.)

In all graded units there was evidence of double marking having taken place. In almost all instances this was effective and evidence was provided of resolution of discrepancies.

**Criterion 4.7: Candidate evidence must be retained in line with SQA requirements.**

All centres are aware of SQA retention policies, and almost all centres retained evidence beyond the three-week requirement as a matter of course.

Almost all evidence is held electronically, and verifiers have confirmed that this is retained securely and have confirmed backup procedures.

In the case of work-based units, evidence was retained in line with funding body requirements.

#### **Criterion 4.9: Feedback from qualification verifiers must be disseminated to staff and used to inform assessment practice.**

In almost all cases of visiting verification, this is discussed with centre staff. Verifiers established how feedback is handled and disseminated to the course team.

All centres were aware of previous reports, and confirmed that points raised had been discussed. Where applicable, evidence was seen of discussion and implementation of action points. Almost all centres reference previous reports in standardisation activity, thus confirming effectiveness.

#### **Areas of good practice reported by qualification verifiers**

The following good practice was reported during session 2016–17:

##### **From HN and N-HS**

- ◆ Use of QELTM-based checklist to meet equalities issues.
- ◆ A high standard of feedback with constructive and comprehensive comments to support candidates.
- ◆ Effective use of an online assessment environment.
- ◆ The use of open source systems such as Google Drive for managing assessment submission and feedback.
- ◆ Embedding of the Oracle Academy Certification within the HNC/D awards provides candidates with an added-value qualification which is widely respected in the world of work.
- ◆ The provision of simplified processes such as an A4 flowchart which depicts a 'one-stop see-at-a-glance' document of the internal verification process.
- ◆ Quality Enhancement Team advocating the use of SQA's Prior Verification Service for centre-devised assessment.
- ◆ Delivery of Harvard referencing training by the Learning Support Team as part of the induction process.
- ◆ Teaching students using technologies that are very current and involve highly sought-after skills in the current job market.
- ◆ Training in Quality Assurance and National Standards and the updating and expansion and enhancement of programming languages to update currency is vital. Ongoing training in cybersecurity is commendable and is certainly good practice.

##### **Graded Unit specific**

- ◆ Reviewing of learning materials to include presentation/demonstration of the developing stage. Reviewing the agile/project management areas to deliver a clearer picture of project management as a means to meeting milestones/targets and not simply the use of a software application.

- ◆ Ensuring that all underpinning knowledge units are delivered before the commencement of the graded unit project.
- ◆ Timetabling for two three-hour sessions has had a positive effect on candidates as they see their assessors more frequently. There is little lag time. Candidates are more focused on the project as a large part of their week is spent on it and most units are completed in the first two blocks of the year. This provides enough positive pressure to help candidates experience industry practice.
- ◆ Allowing candidates to propose their own projects for the graded unit helps to engage the students and helps them feel they have ownership of the project.

### **For N-W**

- ◆ Assessor holding D units has recently undertaken L&D11 to update knowledge and skills.
- ◆ Candidates can change the units that they are undertaking to suit their job role. They can also change their level up or down based on their academic ability.
- ◆ Modern Apprenticeship candidates are entered for an HN Computing award suitable to their job role. Good practice was identified in that during the review process candidates can opt out of this and focus entirely on their MA.
- ◆ Evidence of APL being awarded. This was supported by evidence of discussion with the candidate of its relevance to their studies, thus ensuring this was not a paper exercise.
- ◆ Provision of a 'skills passport' matrix to record skills which are used in the workplace, and which may be of use during the candidate's journey through the award. This provides a one-stop shop where candidates are able to determine which skills they possess and which may need to be worked on. This also provides candidates with the knowledge to help them decide on their career path.
- ◆ Adoption of a decision log for items discussed at meetings, which provides an overview of actions.
- ◆ Outcome of internal verification being discussed at the Level Meetings to enhance quality assurance and allow best practice to be shared.
- ◆ Use of e-portfolios, which clearly show the status of verification and provide an audit trail, and can provide auto-generated reports to highlight the status of verification.
- ◆ The IV accompanies the assessor on visits to internally verify the assessment process on site.
- ◆ Monthly standardisation meeting are held.
- ◆ Use of Kahoot for self-testing quizzes and an app to access learning materials and upload product evidence like video clips or photographs to their e-portfolio. This is an opportunity to engage further with candidates using methods they will enjoy.
- ◆ Candidates are required to sign off unit completion to confirm that they have been fairly and appropriately assessed. This provides effective feedback for the centre.

## **Specific areas for development**

In almost all cases there were no development issues identified during session 2016–17. Out of all activity this session, the following were identified in a very few instances:

- ◆ Cross-referencing of evidence could be considered.
- ◆ Use of e-portfolios could be introduced where these are not currently used.
- ◆ Submit centre-devised instruments of assessment to SQA for prior verification.