



**Higher National and Vocational Qualifications
Internal Assessment Report 2012
Electrical Principles**

The purpose of this report is to provide feedback to centres on verification in Higher National qualifications in this subject.

Higher National Units

The HN Units externally verified as a result of the four visits were:

- ◆ Single Phase AC Circuits at SCQF level 7
- ◆ Electrical Networks and Resonance at SCQF level 7
- ◆ Three Phase Systems at SCQF level 7
- ◆ Transmission Lines and Complex Waves at SCQF level 8

General comments

HN external verification activity consisted of visits to four further education colleges by three different External Verifiers. Two of the external verification visits were undertaken using SQA's new quality assurance arrangements and the other two visits were conducted using the existing external verifier reporting arrangements.

All four external verification visits were entirely successful. In terms of SQA's new quality approach this means that the centres' overall risk was Very Low and no action plans arose from the visits. In terms of the existing external reporting system, a recommendation for a hold on certification was not required.

Unit specifications, instruments of assessment and exemplification materials

Assessment instruments in all four centres were current, valid and reliable. Alternative assessment instruments were available when required.

Assessment instruments, including SQA's Assessment Exemplar Materials, are generally internally verified prior to use. Marking schemes were available to facilitate accurate and consistent marking. In all four centres, assessors' judgments on candidate responses were deemed to be appropriate.

Evidence Requirements

In all four centres in which external verification visits took place, centre staff had a good understanding of the Evidence Requirements of the HN Units they were delivering and assessing.

Administration of assessments

In all four centres, assessment was conducted under the conditions and time allocated for assessment indicated in Unit specifications. Internal verification systems were robustly applied and the process was well-documented. A cross-section of candidate scripts was second marked. Centres typically had statements on plagiarism and in one centre a VLE course was available to both candidates and staff on this subject.

General feedback

Candidates tend to receive verbal feedback from their assessor on a weekly basis. Written feedback is provided after the candidates complete summative assessment tasks. With regard to one centre, the External Verifier commented that 'excellent written and verbal feedback is provided to candidates after assessment events, and drop-in tutorial sessions further support candidates requiring remediation and reassessment'.

Centres have well-established systems for providing Extended Learning Support to candidates with learning support needs.

Areas of good practice

The following areas of good practice were noted during external verification visits:

- (1) In one centre, staff members engage well with the SQA Electrical Engineering Qualification Support Team. As a result, staff members are aware of the most recent developments within the electrical engineering awards, and they are active in the sharing of good practice with other delivering centres.
- (2) Teaching staff in the same centre as in (1) are encouraged to undertake the SQA PDA teaching awards.
- (3) In the same centre as (1) and (2), good feedback sheets are used to inform candidates of their level of performance in assessments. These had been particularly well-completed and utilised for candidates undertaking the Three Phase Systems Unit at SCQF level 7.
- (4) In another centre, a 'Best Practice Framework for Learning and Teaching' exists that sets standards in teaching to support effective candidate learning. The Framework supports all lecturers in their role as reflective practitioners.
- (5) In the same centre as in (4), candidates expressed their appreciation for having access to well-designed laboratories and access to reliable, fast computer facilities.
- (6) In the same centre as (4) and (5), good use is made of a VLE system to support candidate learning. Candidates valued the online materials during course delivery and enjoyed communicating via the online forums provided in the centre.

Specific areas for improvement

External Verifiers did not identify any areas for improvement during their visits.

Higher National Graded Units

Titles/levels of HN Graded Units verified:

- ◆ Electrical Engineering: Graded Unit 1
- ◆ Electrical Engineering: Graded Unit 2

General comments

There was no external verification activity in Session 2011/12 for Electrical Engineering: Graded Unit 2 Project.

Central verification of Electrical Engineering: Graded Unit 1 Examination took place at SQA, Optima Building. Four centres were centrally verified by a team of three External Verifiers. The verification activity was successful in the sense that no holds were placed on certification of the four centres.

Unit specifications, instruments of assessment and exemplification materials

The four centres used a QST-developed examination paper that was prior verified by an SQA External Verifier.

The paper was of an appropriate standard but the questions in the paper were not balanced in terms of the subject weightings in the table shown on pages 4 and 5 of the Graded Unit specification. There was also a serious error in Q.1 of the examination paper (power per phase had been expressed in terms of impedances). This error might have confused some candidates.

The marking scheme for the examination paper was generally correct and facilitated accurate and consistent marking.

Evidence Requirements

The unbalance in the examination paper may have occurred as a consequence of difficulties in interpreting the table on pages 4 and 5 of the Graded Unit specification. This table includes a 10% allocation of marks to both Communication and Mathematics which question setters may have had difficulty in realising in the examination paper.

It is recommended that the table on pages 4 and 5 of the Graded Unit specification is reviewed with a view to making it easier for question setters to achieve the correct balance of questions in examination papers.

Administration of assessments

The QST Electrical Engineering normally designates a single date in late May for candidates to sit the examination paper.

It is pleasing to report that internal verification procedures were applied rigorously in terms of second marking of candidate scripts. There were only small variations in the marks awarded by assessors and internal verifiers. These small variations did not affect the grades awarded to candidates. It is reasonable to state that candidates' scripts were marked accurately, consistently and fairly across the four centres.

General feedback

There was clear evidence of good written feedback comments to candidates on scripts.

Areas of good practice

Centres are to be congratulated for the way that they applied rigorous internal verification procedures to the marking of candidate scripts. This robust application of internal verification procedures gave the External Verifier team confidence that candidate scripts had been marked accurately, fairly and consistently.

Specific areas for improvement

The team preparing the examination paper should make every effort to ensure that questions in the paper conform to the subject distribution shown in the table on pages 4 and 5 of the Graded Unit specification.

The examination paper and marking scheme should be thoroughly edited before distribution to centres to ensure that errors are minimised.