



National Qualifications 2012 Internal Assessment Report Computing

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

National Courses

Titles/levels of National Courses verified:

C207 10: Intermediate 1 Computing Studies

C206 11: Intermediate 2 Computing

C206 12: Higher Computing

C206 13: Advanced Higher Computing

General comments

Centres would now appear to have a better understanding of the requirements of the Intermediate 1 Computing Studies Coursework than in previous years, but issues still exist across both Intermediate 2 and Higher Computing.

Too many centres continue to have problems interpreting the national standards at these two levels with the result that some candidates' responses to Coursework are very superficial, lacking the level of technical detail and understanding that should be prevalent.

It is crucial that all staff delivering Computing Courses read the previous year's Computing Internal Assessment Report published on the SQA website. This is designed to give as much support as possible in terms of highlighting the issues that arose during the previous year's verification exercise.

Course Arrangements, Unit specifications, instruments of assessment and exemplification materials

Centre staff delivering specialist Computing Courses should ensure that they have access to, and have read and understood, the appropriate Course Arrangements and Unit specifications. Teaching plans should reflect the contents of these documents both in terms of the coverage of topics and in the level and depth of that coverage.

The Coursework tasks are published annually on 31 October on SQA's secure website. Centres should ensure that the relevant subject staff have access to these specifications and to any subsequent amendments that are published.

All teaching staff would benefit from working through Coursework tasks prior to tackling these with candidates. It might also be advisable to discuss solutions to the tasks with colleagues in local areas to ensure a clear understanding of what is expected.

Evidence Requirements

Staff responsible for submitting materials to SQA should take care to ensure that all paperwork is carefully completed and included in the pack(s) of materials. Missing and incomplete, or wrongly completed, documentation significantly

hampers the verification process and, in some cases, can cause a centre to be Not Accepted.

Centres should note that:

- ◆ only responses to the specific year's Coursework tasks should be submitted for verification
- ◆ only the Marking Scheme issued as part of the current year's Coursework should be used and should be well annotated to explain decisions made
- ◆ specifications or Marking Schemes should not be amended as doing so will invalidate the Coursework

Administration of assessments

As stated in last year's report, many centres do submit well prepared and very well marked Coursework. Verifiers can see clearly that the work is that of individual candidates and that the work has been done under the expected 'controlled conditions'. Candidates have obviously been given clear advice and guidance but they have not been 'led' by the teacher or allowed to work with others.

Internal verification is an expectation of all centres and some clearly do ensure that Coursework is cross-marked. Such procedures are of particular importance where centres have more than one group of candidates undertaking the same Course. Consistent marking across all candidates in a centre is essential. Here, too, there may be opportunities for verification to be carried out between neighbouring schools.

Centres are advised to check all arithmetic and the transferring of marks. Verifiers found instances of candidates' marks totalled wrongly on marking grids and also instances of marks being transferred wrongly to SQA documents.

Areas of good practice

Intermediate 1 Computing Studies

All 19 centres verified at this level in 2012 were 'Accepted'. As in previous years, Verifiers worked to a tolerance of ± 2 out of the total of 40 marks. It was good to see that the advice offered in the last few internal assessment reports along with the more detailed advice included with the Coursework specification had made a significant difference to the standard of submission, one or two of which were exceptionally good.

Intermediate 2 / Higher Computing

At these levels, some 40% of centres verified were 'Not Accepted'. Although this continues to be a worrying figure, many centres are submitting work of a good standard where advice offered through internal assessment reports of recent years has been heeded. At Intermediate 2 level, Verifiers worked to a tolerance of ± 2 out of the total of 30 marks. At Higher level, Verifiers worked to a tolerance of ± 4 out of the total of 60 marks.

Advanced Higher Computing

The 10 centres visited in 2012 were all 'Accepted'. In some of these centres candidates were being given an experience that will ensure that they have opportunities to progress far in the world of computer science. The support and challenge afforded these candidates is of the highest standard due to the knowledge and experience of the teachers. AH Coursework projects were verified to a tolerance of ± 7 marks out of the total of 80.

Specific areas for improvement

In all levels of Computing Coursework, the verification process would benefit greatly if Markers were to add comments to explain the marks awarded/deducted. Although some centres do this routinely, others do not, and it is often difficult to gauge their intentions.

Intermediate 1 Computing Studies

The pattern of Intermediate 1 Computing Studies Coursework is now well established and staff delivering the Course should have a clear understanding of what candidates need to know to successfully complete the tasks. Specific areas to focus on include the use of templates in presentation software and details included in a presentation design.

Intermediate 2 Computing

In the area of Software Development there is a need to further develop candidates' knowledge and understanding of writing algorithms. This continues to be a particular weakness. Evidence of testing could also be improved with candidates encouraged to follow through a detailed test plan showing output from the tests performed.

In Computer Systems, candidates should be encouraged to use more technical language when comparing items of hardware and to make recommendations in relation to the scenario the task is set in. Candidates (and assessors) should also check the details of the hardware they are recommending, eg is the memory card recommended actually compatible with the camera recommended?

Higher Computing

In both Intermediate 2 and Higher Computing, candidates are asked to submit the source documents they have used in identifying the hardware/software required. They are also asked to highlight the important characteristics. This is a **requirement** not an option — a URL is not acceptable as Verifiers do not have internet access and also the web details could change over a period of time. Candidates should be selecting sources where all characteristics are clearly shown.

The Computer Systems section of the Higher Coursework continues to throw up major issues. For each item required, candidates should be encouraged to:

- ◆ identify the two suitable pieces of hardware/software, printing out and highlighting their source documents; it may help to then extract the data from the source documents into a table

- ◆ produce a written comparison of the two items, using technical language and demonstrating a sound knowledge of what has been learned in the Higher Computer Systems Unit
- ◆ make a recommendation as to which item is preferred for the specific situation, giving technical reasons in justifying the choice

Too many candidates currently give very superficial responses in this section of the Coursework and do not demonstrate a technical knowledge at a Higher level.

In the Software Development section the areas of concern continue to be the algorithm development, data flow and parameter passing. Centres would be advised to encourage candidates' skills in writing algorithms, perhaps using Coursework tasks from previous years as homework tasks, and also to emphasise the use of parameters, perhaps by making more use of module libraries. Many candidates would also benefit from practice in evaluating programs, looking carefully at all aspects of program evaluation.

Advanced Higher Computing

Although teachers should be alert to candidates being over ambitious, in AH Projects there is a need to demonstrate coding at an Advanced Higher level as well as demonstrating all aspects of the Higher Course such as parameter passing. Candidates should be advised to keep detailed log books and consider carefully what should be included in the report. Candidates should be cautioned against the use of downloadable algorithms.