



NQ Verification 2013–14

Key Message Reports

Verification group name:	Design and Manufacture
Levels	N4 and N5
Date published:	July 2014

This Report combines all Verification Key Messages for the academic session 2013-14.



NQ Verification 2013/14 Key Messages Round 1

01

Section 1: Verification group information

Verification group name:	Design and Manufacture
Verification event/visiting information	Verification event and visiting
Date published:	

National Courses/Units verified:

National 4 H22T 74: Design

National 4 H22V 74: Materials and Manufacturing

National 5 H22T 75: Design

National 5 H22V 75: Materials and Manufacturing

02

Section 2: Comments on assessment

Assessment approaches

Most centres used the combined approach Unit Assessment Support pack, with a few centres using a Unit by Unit approach. A range of tasks and activities were used by centres. All assessment approaches were appropriate. In most cases there was clear evidence of sound course planning and a large number of centres submitted clear details of where and how the evidence was generated.

All centres submitted partial evidence with assessment judgements made on a wide spectrum of Assessment Standards. Very few centres submitted evidence for a complete Outcome.

Assessment judgements

Centres did, on the whole, make good judgements of the majority of Assessment Standards. However, a number of the Assessment Standards raised some issues at both levels:

Design and Manufacture: Design

Outcome 1

AS1.2: There was often a lack of evidence of real or meaningful research and little evidence of any research technique(s) used. It is essential that meaningful research into the factors identified in AS1.1 is carried out as it impacts on a number of other Assessment Standards (1.3, 1.4 and 1.6)

AS1.3: Due to the poor evidence generated for AS1.2 some candidates found it difficult to summarise the research.

AS1.4: Due to the poor research for AS1.2 some of the specifications were generic and vague and indeed could have been written without any research. Poor specifications also led, in some cases, to limited development of the design proposal. At National 5 a “detailed product specification” is required to be written by the candidate; at least two points should be specific. At National 4 guidance can be given with the production of the specification and staff should encourage candidates to be as specific as possible as it will enhance the development of their design proposal.

AS1.5: There was often little evidence of use of idea generation techniques. In some cases there was little more than a token attempt of using techniques with very few, if any ideas actually generated. Some candidates appeared to be aware of the techniques but not clear about how to use them. This was particularly true of morphological analysis.

AS1.6: Again, due to the poor evidence generated for AS1.2 some candidates found it difficult to incorporate findings into a design proposal.

Outcome 2

AS1.1: A significant number of centres recorded a “pass” for this Assessment Standard even although the range, quality and use of graphics and modelling were very limited. Candidates must demonstrate use of recognisable and appropriate graphic and modelling techniques to communicate their ideas in 2D and 3D.

AS2.3: Proposal must be presented in a way that would permit manufacture, i.e. materials and dimensions. Candidate can make a simple statement if no changes are required to be made to the original specification.

AS2.4: Some of the “plans” were written in the past tense, a clear indication that it had been produced after the proposal had been manufactured.

Outcome 3

AS3.2: Candidates must produce a strategy for evaluation that details which factors they will be looking at, what they intend to find out, and how they will find it out.

AS3.5: Candidates should make meaningful references to production methods, materials, packaging, pollution, recycle, reuse, reduce etc. in relation to their products.

Design and Manufacture: Materials and Manufacturing

This Unit is subject to Visiting Verification (see Section 3, General Comment). Feedback was provided to submissions made to the Central Event and the following points should be noted:

Outcome 1

AS1.2: 'Testing of materials' does not necessarily mean using a 'scientific' approach. Testing of materials could either be demonstrated by a stand-alone activity or by evidence being produced through the design and manufacture process, for example, a candidate may change the original material to a new one when s/he realises that the material is not suitable. They must make a statement identifying reasons why change was made.

Outcome 3

AS3.1: Manufacturing plans should be done before the prototype is manufactured.

03

Section 3: General comments

Unit H22V 74/75: Materials and Manufacturing is verified by a Visiting Verifier. Material for this Unit should not be submitted for Central Event.

Centres must be clear about the level at which candidates are being submitted. It is not permitted to make assessment decisions at different levels of Assessment Standards for the same candidate.

Centres should indicate if guidance or support has been given to candidates.

A number of Centres provided candidates with a pro forma to be completed for the product evaluation. This was clearly beneficial to candidates, cutting down time spent on unnecessary paperwork for them, and is an approach which is encouraged.



NQ Verification 2013–14 Key Messages Round 2

01

Section 1: Verification group information

Verification group name:	Product Design
Verification event/visiting information	Verification event and visiting
Date published:	March 2014

National Courses/Units verified:

National 4 H22T 74: Design
National 4 H22V 74: Materials and Manufacturing
National 5 H22T 75: Design
National 5 H22V 75: Materials and Manufacturing

02

Section 2: Comments on assessment

Assessment approaches

Most centres used the combined approach to assessment. A few centres used the Unit-by-Unit approach. A range of tasks and activities was used by centres.

In most cases there was clear evidence of sound Course planning and a large number of centres submitted clear details of where and how the evidence was generated.

All centres submitted partial evidence with assessment judgements made on a wide spectrum of Assessment Standards. Very few centres submitted evidence for a complete Outcome.

It should be noted that, regardless of the assessment approach used, evidence submitted must be for individual candidates. A few centres submitted evidence that had been generated as a group activity with all candidates claiming the responsibility for the work.

Assessment judgements

As in Round 1, centres did, on the whole, make good judgements for the majority of Assessment Standards. However, a number of Assessment Standards still raised some issues at both levels:

Design Unit

Outcome 1

Assessment Standard 1.2: There was often a lack of evidence of real or meaningful research and little evidence of any research technique(s) used. It is essential that meaningful research into the factors identified in AS1.1 is carried out as it impacts on a number of other Assessment Standards (1.3, 1.4 and 1.6).

Assessment Standard 1.3: Due to the quality of evidence generated for AS1.2, some candidates found it difficult to summarise the research.

Assessment Standard 1.4: Due to the quality of research for AS1.2, some of the specifications were generic and vague and indeed could have been written without any research. Poor specifications also led, in some cases, to limited development of the design proposal. At National 5, a 'detailed product specification' is required to be written by the candidate; at least two points should be specific. At National 4, guidance can be given with the production of the specification and staff should encourage candidates to be as specific as possible as it will enhance the development of their design proposal.

Assessment Standard 1.5: There was often little evidence of use of idea-generation techniques. In some cases there was little more than a token attempt of using techniques with very few, if any, ideas actually generated. Many candidates appeared to be aware of the techniques, but not clear about how to use them. This was particularly true of morphological analysis.

Assessment Standard 1.6: Again, due to the quality of evidence generated for AS1.2, some candidates found it difficult to incorporate findings into a design proposal.

Outcome 2

Assessment Standard 1.1: A significant number of centres recorded a 'pass' for this Assessment Standard when the range, quality and use of graphics and modelling were very limited. Candidates must demonstrate use of recognisable and appropriate graphic and modelling techniques to communicate their ideas in 2D and 3D.

Assessment Standard 2.3: Proposals must be presented in a way that would permit manufacture, ie materials and dimensions. Candidates can make a simple statement if no changes are required to be made to the original specification.

Assessment Standard 2.4: Some of the ‘plans’ were written in the past tense, indicating that they had been produced after the proposal had been manufactured.

Outcome 3

Assessment Standard 3.2: Candidates must produce a strategy for evaluation that details which factors they will be looking at, what they intend to find out and how they will find it out.

Assessment Standard 3.5: Candidates should make meaningful references to production methods, materials, packaging, pollution, recycle, reuse, reduce etc. in relation to their products.

Materials Unit

This Unit is subject to visiting verification (see Section 3, General comment). Feedback was provided to submissions made to the central verification event and the following points should be noted:

Outcome 1

Assessment Standard 1.2: ‘Testing of materials’ does not necessarily mean using a ‘scientific’ approach. Testing of materials could either be demonstrated by a stand-alone activity or by evidence being produced through the design and manufacture process, eg a candidate may change the original material to a new one when s/he realises that the material is not suitable. They must make a statement identifying reasons why the change was made.

Outcome 3

Assessment Standard 3.1: Manufacturing plans should be done before the prototype is manufactured.

03

Section 3: General comments

Photocopies of evidence can be submitted. Care should be taken to ensure that the photocopies are clear enough to show the evidence.

The assessment judgements made must be clearly shown for each Assessment Standard assessed.

Candidates should only be judged at one level. For example, if a candidate is at National 5 and they pass three Assessment Standards and fail two, then this should be indicated. They should not be marked as passing three at National 5 and two at National 4.

Candidates should not be encouraged to rush to finish practical work because a verifier is due to visit. Partial evidence will be verified, allowing candidates to finish work to an appropriate standard.

Unit H22V 74/75: Materials and Manufacturing is verified by a visiting verifier.
Material for this Unit should not be submitted for the central event.

Centres should indicate if guidance or support has been provided to candidates.
This applies to both Units.



NQ Verification 2013–14

Key Messages Round 3

01

Section 1: Verification group information

Verification group name:	Design and Manufacture
Verification event/visiting information	Central
Date published:	June 2014

National Courses/Units verified:

National 4 Added Value Unit (AVU)

National 5 Internally-assessed Components of Course Assessment (IACCA)

02

Section 2: Comments on assessment

Assessment approaches

All centres used tasks provided by SQA.

A number of centres allowed a very wide interpretation of 'assessment task: store, hold or display an item'. This resulted in a number of candidates producing practical projects which were difficult to make in the time allocated. Such items included chairs and very traditional tables.

There was evidence of a number of candidates repeating activities which would not generate any additional marks but would extend the time spent on the assessment task, eg rendering every drawing in the folio.

A number of candidates generated evidence which was not required, eg further research. Although this may aid candidates in the design process, it is not allocated any marks and should not be included as part of the candidate evidence as it uses up some of the restricted pages available.

Assessment judgements

The majority of centres made assessment judgements which were in line with national standards.

03

Section 3: General comments

A significant number of centres were Not Accepted due to errors in arithmetic or errors in transposing candidate marks onto the summary sheet. Checking of arithmetic should be part of a centre's internal verification process.

A number of centres did not submit photographs of practical work. Photographs are required to allow verification of Practical Skills to take place.

A number of centres did not supply a breakdown of marks. Marks should be entered on the Candidate Record of Assessment Sheet.

A number of centres did not add comments in support of the assessment mark. Although comments are not required for every section, or every candidate, they should be added when clarification is required, eg if a candidate received help or if the evidence is unclear. This is particularly important for Practical Skills.

Design Skills

Section 1: Marks awarded for Ideas were generally in line with national standard. However, a significant number of candidates simply copied existing ideas. This was particularly true for the 'toy' task. Although existing products can be a reasonable starting point, it created problems for a number of candidates in the Development section as they simply made the product.

Section 2: Marks awarded by a number of centres for Development were too generous. A number of candidates had been awarded marks in the top bands when there was very limited evidence of exploration, knowledge of materials and manufacturing, understanding of design issues, or ongoing review of ideas. Many candidates were incorrectly awarded marks in the top bands even although their design proposal showed almost no change and contained no more detail than their original idea.

Section 3: Marks awarded for Communication were generally in line with national standard.

Section 4: Marks awarded for Evaluation were generally in line with national standard. However, a number of candidates made no reference to the specification and simply described what they had done.

Practical Skills

Marks awarded for all sections of Practical Skills were generally in line with national standards.

It is the candidate's practical skills which are being assessed. A candidate must produce work which allows her/him to display skills in measuring and marking out, cutting, shaping and forming, assembly of components and finishing. Therefore, the following should be noted:

- ◆ Practical marks cannot be awarded for CNC machining.
- ◆ A very simple design proposal (even if it is arrived at through a wholly appropriate design route) is unlikely to give candidates the opportunity to access the full range of practical marks. Candidates should be reminded that the Assignment is an assessment activity and that they must demonstrate both their design and practical skills.