

# NQ Physics Qualification Verification Summary Report 2024–25

# Section 1: verification group information

Verification group name:	Physics
Verification activity:	Mixed
Round:	1
Date published:	June 2025

### **National Units verified**

Unit code	Unit level	Unit title
H25A 73	National 3	Physics: Waves and Radiation
H256 74	National 4	Physics: Electricity and Energy
H258 74	National 4	Physics: Dynamics and Space
H25A 74	National 4	Physics: Waves and Radiation
J26L 75	SCQF level 5	Physics: Electricity and Energy
J2CL 75	SCQF level 5	Physics: Waves and Radiation
J20A 76	SCQF level 6	Physics: Electricity
J20D 76	SCQF level 6	Researching Physics
J2B6 77	SCQF level 7	Physics: Rotational Motion and Astrophysics
J2B9 77	SCQF level 7	Investigating Physics

# Section 2: comments on assessment

#### **Assessment approaches**

All centres selected for this verification round used SQA's unit assessment support (UAS) packs. These are available from SQA's secure site.

Most centres used the holistic assessment packs, Outcome 2: Assessment activity 2 — test 1 or test 2, to make clear assessment judgements on the candidate's attainment.

A few centres assessed outcome 2 using the original Package 1: Unit-by-Unit approach UAS pack. Of these centres, a very small proportion used the original UAS pack 'atomistic' approach to assess the knowledge and understanding and each of the problem-solving skills individually. However, others used an invalid approach to assess the candidates, allocating 1 mark to every question and then applying a cut-off score of 50%. The advice in the packs, and in previous verification summary reports, makes it clear that when adapting these assessments, the processing questions should be allocated 3 marks, with the requirement to add or substitute additional processing questions to reflect the importance of calculations in physics. Centres that used this assessment as a holistic assessment did so without making the required adaptations, resulting in a 'not accepted' decision for assessment approach.

Given that there are two dedicated outcome 2 tests, with marks and a cut-off score, available for every unit, centres should not be trying to adapt the original unit-by-unit UAS packs to use marks and a cut-off score.

Centres that used the Outcome 2: Assessment Activity 2 — test 1 or test 2 packs did not have any issues with either their approach to assessment or their assessment judgements.

The centres that submitted evidence for outcome 1 used the Package 1: Unit-by-Unit UAS pack, with the evidence requirements in the judging evidence table being applied clearly.

For the verification visits, the centres selected applied the requirements in the UAS packs Researching Physics Package 1: Unit-by-Unit approach, and Investigating Physics Package 1: Unit-by-Unit approach. Centres applied the assessment criteria in these packs appropriately and consistently.

### Assessment judgements

All centres that used the Outcome 2: Assessment Activity 2 — test 1 or test 2 packs to assess candidates holistically made accurate and reliable assessment judgements. Centres applied both the marking instructions for the tests and the <u>Physics: general</u> <u>marking principles</u> accurately.

The few centres that used the original atomistic assessment approach, and applied it as it was originally intended, made accurate and reliable judgements.

Where centres had attempted to adapt this unit assessment pack to use with marks and a cut-off score, they received a 'not accepted' decision as they had not followed the instructions about how to adapt the assessment correctly. This resulted in an invalid approach, meaning the assessment judgements were neither reliable nor accurate.

Some centres stated that the evidence they submitted for verification was complete, but did not include evidence for outcome 1. These centres received a 'not accepted' decision, as all course assessment components could not be externally verified.

For interim evidence, the pass or fail decision indicated by the centre is not the final decision for the unit. The final decision for the unit would be made when all outcomes are assessed and after any necessary re-assessment. The assessment decision can be altered at a later stage after all outcomes have been assessed and any reassessment has been completed. Centres are reminded that to pass the units, candidates must pass both outcome 1 and outcome 2. If centres can only supply evidence for one outcome at

the time of verification, the evidence must be marked as interim. The assessment decision should be based on the evidence supplied — for example, where only evidence of outcome 2 is available, the evidence is marked as interim, and a pass or fail indicated for that outcome depending upon the candidate's attainment. Centres should also note that an Advanced Higher project, Higher assignment, National 5 assignment, or National 4 added value unit cannot be used as evidence for outcome 1 of the units at each level.

All centres displayed evidence of some form of internal verification. In some centres this was highly effective, with records of discussions taking place between the assessor and the internal verifier and clear final decisions communicated. However, in some centres it was much less effective — for example where there was a disagreement between the assessor and internal verifier, the final decision was not always clear. In some cases, the internal verification was ineffective, especially when it failed to identify an invalid approach to assessment.

During the visiting verification events, the supporting evidence for centre decisions was readily available and the ability to discuss this with the centre staff made it possible to action any issues identified.

# **Section 3: general comments**

For central verification, it is evident that some centres are still not clear as to the type of evidence they are sending and that the decision made by centre staff only applies to the evidence available. If a centre has evidence for candidates that covers only one outcome, then this should be marked as interim, with a pass or fail made on this evidence. It is not the final decision for the unit that is required, as the candidate may not have received an opportunity to be assessed for all outcomes at that point and the centre still has time to allow the candidates to re-sit, after any identified remediation activity, before a final unit assessment decision is made.

Centres are strongly advised not to attempt to adapt the original Package 1: Unit-by-Unit approach UAS packs to make them holistic assessment instruments with marks and a cut-off score.

SQA has provided two holistic outcome 2 tests for each unit to support centres in the approach of using marks and a cut-off score, to reduce the workload for centre staff and make tracking and monitoring much more straightforward. Where centres are using the holistic approach of applying marks and a cut-off score, these are the tests that should be used.

Holistic tests must not be 'cut up' into multiple assessment instruments consisting of individual questions or key areas. They are for use as a single holistic assessment instrument and are to be conducted in a single sitting at the end of each unit when candidates are ready to be assessed.

All centres are reminded that all assessment outcomes must be assessed before a completed unit result can be recorded with SQA — both outcome 1 and outcome 2 are required. Centres should also remember that a pass for outcome 1 in one unit of a physics course can be used as evidence for the other two units. However, where a unit is being undertaken as part of a National Certificate (NC) or National Progression Award (NPA), outcome 1 must be subject-specific. An outcome 1 for a biology or chemistry unit cannot be used as evidence for a physics unit, and vice versa.

Centres must ensure they are using the most up-to-date versions of the UAS packs and applying the marking guidance contained in these packs.

It was evident that centres using the holistic approach of applying marks and a cut-off score were also applying the Physics: general marking principles. As the marking guidance in the UAS packs is not exhaustive, there may be other alternative acceptable responses to questions in the UAS packs. Where centres are accepting alternatives, they should annotate the marking instructions accordingly to ensure consistency across centre staff. However, centres should ensure that any alternative responses are correct

scientifically. For example, it would never be appropriate to change 'do not accept' in the marking instructions to 'accept'.

Assessors must not adopt an approach of 'I know what they meant' when marking, as this approach leads to lenient marking and decisions that are not in line with the national standard. It must be clear what the candidate response is so that the assessor does not need to interpolate the given answer to fit the correct one.



# NQ Physics Qualification Verification Summary Report 2024–25

# Section 1: verification group information

Verification group name:	Physics
Verification activity:	Event
Round:	2
Date published:	June 2025

### **National Units verified**

Unit code	Unit level	Unit title
H25C 74	National 4	Physics assignment

# Section 2: comments on assessment

### Assessment approaches

Round 2 verification focused on the National 4 Physics Assignment added value unit. All centres used the SQA added value unit assessment support (UAS) pack to mark each candidate's evidence out of a total of 14 marks and applied the holistic cut-off score for the assessment.

Some centres sent National 5 Assignments that had been marked against the National 4 criteria. This often caused issues, as the candidates had not investigated a topical issue in physics. Those centres that carried out dedicated National 4 assignments had fewer issues when it came to making assessment judgements compared to those that attempted to use a National 5 assignment.

It is important that candidates are encouraged to select a topical issue in physics to investigate rather than a basic physics principal within the National 4 or National 5 course content.

### **Assessment judgements**

Most centres that were selected for National 4 added value unit verification marked clearly where each assessment standard had been achieved on the candidates' work. A number of these centres used the candidate assessment record on page 20 of the UAS pack, or a centre-devised record sheet, to tabulate the final marks awarded for each of the five assessment standards.

A few centres awarded 2 marks to candidates for assessment standard 1.1 even though the candidates did not select a relevant topical issue in physics, did not state what the issue was, and did not state how the issue was relevant to society or the environment. The centres also awarded 3 marks for assessment standard 1.4 even though the candidates' underlying physics did not relate to a topical issue and they did not describe or explain an impact on society or the environment. In some cases, this changed a 'pass' decision to 'fail' for some candidates.

A few centres awarded marks incorrectly for assessment standard 1.2(b). When one of the candidates' sources is an experiment, the data must be referenced by stating the experiment title and aim with the data. The title and aim of the assignment cannot be taken to also be the reference for the experimental data.

A few centres awarded multiple marks for different assessment standards against the same piece of information in the candidate's evidence. This led to inflated final marks

and, in some cases, meant that a 'pass' decision should have been a 'fail'. Assessors and internal verifiers must not 'double-credit' the same information against different assessment standards.

# **Section 3: general comments**

Centres must ensure that candidates are issued with the instructions to candidates on pages 14 to 18 of the Physics Assignment (National 4) Added Value Unit support pack. To ensure fairness across all centres and candidates, these instructions must not be altered or supplemented with centre-devised instructions or checklists.

Where candidates have a log book for collecting their research evidence, this must not contain prompts or additional information.

It is important that teachers and lecturers check the evidence that candidates take into the communication stage of the process, as they must not have pre-prepared drafts or pre-processed data.

The research stage involves selecting data/information from the internet, books, newspapers, journals, publications, experiment/practical investigation or any other appropriate source. Candidates must use and reference at least two appropriate sources in a way that would allow someone else to find them. The data/information can be included in a candidate's log or journal.

The communication stage involves the selecting, processing, and presenting of information/data which is generated in the research stage. During the communication stage, candidates should have access to the material they have selected/generated in the research stage, and the instructions for candidates. The communication stage must be carried out under centre staff supervision to ensure it is the candidate's own work and has been completed under the correct assessment conditions.

For the five assessment standards, the following advice is supplied to support centres in identifying what they should be looking for from candidates:

#### Assessment standard 1.1

It is important that candidates select a relevant topical issue to investigate, with appropriate justification as to why the topic has been selected. For example, Ohm's Law would not be a topical issue in physics.

Some candidates investigated road safety but stated that 'seatbelts' was the topical issue, which is not a topical issue on its own. How seatbelts impact on injuries or fatalities in road accidents would be a suitable topical issue.

#### Assessment standard 1.2

Candidates must select data and information from at least two relevant sources, with clear references to show where the evidence can be retrieved. If a candidate uses a practical experiment as one of their sources, they must reference it by including a title and aim for the experiment beside the experimental data.

#### Assessment standard 1.3

The acceptable graph types that a candidate should select from are scatter graph, line graph or bar graph.

The type of graph that candidates choose to draw must be appropriate to the data. A line graph or bar graph must not be selected when the data is continuous.

#### Assessment standard 1.4

Candidates are required to describe, using their knowledge and understanding of physics, at least two points relating to their identified issue. This could be from the information collected for assessment standard 1.2, but not copied directly from this evidence. It should be put into the candidate's own words so that marks are not awarded against the same evidence for two assessment standards.

Candidates should also use their knowledge and understanding of physics to explain at least one impact on the environment or society.

#### Assessment standard 1.5

Candidates' conclusions must be supported by all of the evidence in their communication.

To pass the added value unit, candidates must attain at least 7 out of the 14 marks.

Centres are reminded that candidates must be issued with the instructions for candidates from the unit assessment support pack. This must not be supplemented with or replaced by centre-devised instructions.

Where candidates are using a log book to collect their research data or information, this must not have prompts, as that would be giving more than reasonable assistance.

Centres must ensure that each stage of the assignment is carried out under the correct conditions and that the work involved in each stage is limited to that described in the unit assessment support pack. For example, candidates must process their information or data in the communication stage, and not in the research stage.

Centres are advised that it is better for candidates to undertake a dedicated National 4 assignment rather than using a copy of a National 5 assignment, as the requirements are quite different. Even a high-scoring National 5 assignment may not gain sufficient marks to result in a pass for the National 4 added value unit.