Course report 2026

National 5 Engineering Science, SCQF level 5

We've written this report for teachers and lecturers. We recommend you read this with the published course assessment documents and marking instructions.

The report:

- provides a summary of how each course component performed
- highlights areas of the question paper and coursework where candidates performed well and areas where they did not perform well
- has advice you might find useful when preparing candidates for assessment

We collect and prepare the statistics in course reports before we complete the appeals process.

Statistical and grade boundary information

Course entries

Number of resulted entries in 2025: 2,134

Number of resulted entries in 2026: 2,156

Distribution of course awards (including minimum mark to achieve each grade)

Course award	Number of candidates	Percentage	Cumulative percentage	Minimum mark required
A	1,122	52.0	52.0	112
B	425	19.7	71.8	96
C	272	12.6	84.4	80
D	171	7.9	92.3	64
No award	166	7.7	100	Not applicable

We've not applied rounding to these statistics.

In this report:

- 'Most' means greater than or equal to 70%.
- 'Many' means 50% to 69%.
- 'Some' means 25% to 49%.
- 'Few' or 'a few' means less than 25%.

You can find statistical reports on our website.

General commentary on grade boundaries

Our main aim when setting grade boundaries is to be fair to candidates across all subjects and levels, and to maintain comparable standards across the years, even as arrangements evolve and change.

For most National Courses, we aim to set examinations and other external assessments and create marking instructions that allow:

- a competent candidate to score a minimum of 50% of the available marks (the notional grade C boundary)
- a well-prepared, very competent candidate to score at least 70% of the available marks (the notional grade A boundary)

It's very challenging to get the standard on target every year, in every subject, at every level. Therefore, we hold a grade boundary meeting for each course to bring together all the information available (statistical and qualitative) and make final decisions on grade boundaries based on this information. Senior Qualifications Scotland staff normally chair these meetings.

Principal assessors use their subject expertise to evaluate the performance of the assessment and propose suitable grade boundaries based on the full range of evidence. We can adjust the grade boundaries as a result of the discussion at these meetings. This allows the pass rate to be unaffected in circumstances where there is evidence that the question paper or other assessment has been more, or less, difficult than usual.

- We can adjust the grade boundaries downwards if there's evidence that the question paper or other assessment has been more difficult than usual.
- We can adjust the grade boundaries upwards if there's evidence that the question paper or other assessment has been less difficult than usual.
- If levels of difficulty are comparable to previous years, we maintain similar grade boundaries.

Every year, we evaluate the performance of our assessments in a fair way, while ensuring standards are maintained so that our qualifications remain credible. To do

this, we measure evidence of candidates' knowledge and skills against the national standard.

For full details of the approach, please refer to the Awarding and Grading for National Courses Policy.

How the course assessment performed

Question paper

The question paper performed as intended. All questions were fair, balanced, and accessible, and candidates accessed the full range of marks.

Assignment

The assignment performed as intended. The tasks functioned as expected and candidates accessed the full range of marks.

How candidates performed

Areas where candidates performed well

Question paper

Question 2

Most candidates calculated kinetic energy correctly.

Question 3

Most candidates correctly identified the series circuit, accurately drew a voltmeter in parallel with the battery, and clearly described why the LED would not light.

Question 5

Most candidates completed the Boolean equation correctly.

Question 6

Most candidates correctly stated the change in length when the metal was placed in tension and in compression.

Question 8(d)

Most candidates calculated the number of teeth on gear C correctly.

Question 9(d) and (e)

Most candidates calculated the mass and the input energy correctly.

Question 12(a)

Most candidates completed a flowchart from a specification. They correctly used pin numbers and included a unit for each time delay. Candidates gained marks if the decision symbol included: a label of the yes/no route, a question mark, and an arrow on the feedback loop.

Assignment

Task 1b

Most candidates correctly simulated or constructed the pneumatic circuit.

Task 1c

Most candidates correctly described each test result by specifically referencing the piston's motion.

Task 3a

Most candidates correctly simulated the given flowchart and microcontroller circuit.

Task 3d

Most candidates correctly showed amendments to their flowchart and microcontroller circuits, to reflect changes made during the testing process.

Tasks 4a, 4b and 4c

Most candidates correctly completed the logic diagram from the described operation, simulated or constructed their circuit, and completed the truth table. However, some candidates did not include suitable input devices, or correctly label inputs, to allow for testing.

Task 5a

Most candidates correctly simulated or constructed the given gear train design.

Task 5b

Most candidates correctly completed the test table. However, some candidates did not calculate the actual velocity ratio correctly.

Areas where candidates did not perform well

Question paper

Question 1

Some candidates did not name the symbols for main air, exhaust air, or pilot air.

Question 7(a)

Some candidates did not acknowledge that a motor is an internal part of the system when describing the two errors in the system diagram.

Question 8(a)(i) and (ii)

Many candidates did not describe a specific task for each type of engineer in this context.

Question 8(c)

Some candidates did not state ‘compound gear (train)’.

Question 9(a)

Many candidates did not describe two different tasks for a structural engineer. Some did not specify any development-based task. Other candidates used the same task twice or gave generic statements that did not relate to the context.

Question 10(a)

Many candidates did not describe the operation of the electronic circuit. They did not specifically refer to the light level, the resistance of the LDR, or the voltage V_{in}.

Question 10(d)

Many candidates did not describe two different problem-solving tasks that a mechanical engineer would carry out in this context.

Question 11(d)

Many candidates did not describe the operation of the system, particularly the role of the control sub-system and the level sensor.

Question 14(a)(i)

Many candidates did not pipe the 5/2 valve to the double-acting cylinder.

Question 14(a)(ii)

Many candidates did not name the diaphragm actuator.

Question 14(b)

Some candidates incorrectly calculated values for air pressure, because of the unit used. Nm^{-2} and Pa are only acceptable if the candidate correctly converts and uses the area expressed in m^2.

Assignment

Task 1d

Many candidates stated if specifications were met but did not explain their decisions. Although most candidates identified if the piston did or did not outstroke, they did not give cause and effect in their evaluations.

Task 2a(i)

Some candidates did not correctly show all external inputs and outputs in their completed system diagrams.

Task 2a(ii)

Few candidates identified this was an open-loop system and incorrectly completed the sub-system diagram with feedback. Many candidates did not complete the sub-system diagram and used the same external inputs and outputs in the system diagram completed in Task 2a(i).

Task 3c

Many candidates did not describe test results or re-test results correctly. They did not fully refer to the function of the components being tested, especially the motor. Many candidates described planned amendments for the flowchart which were too vague.

Preparing candidates for assessment

Question paper

You should make sure candidates:

- know how to answer questions on the role of engineers. When asked, candidates must give two distinct problem-solving activities, and each activity must link to the context. Candidates should avoid generic statements, such as ‘develop the circuit’, ‘design the structure’, or ‘make sure the mechanism worked’.
- can describe the operation of a system using a sub-system diagram. To gain full marks, they must include key aspects such as a sensor measuring the actual output and the control sub-system comparing the set level to the actual level. They must also describe the specific control action taken if an error exists and when no error is present.
- follow the question stem when describing how an analogue electronic circuit operates. Candidates can gain marks by referring to the specific aspect asked in the question, such as describing the change in resistance of an LDR or the change in the voltage Vin.
- choose the correct final unit for calculations. The expected final unit for calculations involving stress or air pressure is normally N mm-2. Candidates do not need to express or convert an area as m2 and then use a final unit of N m-2 or Pa, unless a question specifically requires it.

Assignment

You should:

- give candidates opportunities to practice key skills required for the assignment. Use naturally occurring opportunities in class work or practise with past assignments.
- encourage candidates to read the requirements of each task carefully. Although some tasks may appear similar to a previous assignment, there could be significant differences. Candidates must note the details and respond accordingly. For example, if they’re asked to give the names of pneumatic

components used in a circuit and there's an example of the level of detail required, candidates should give all component names to the same standard.

- help candidates develop testing responses that refer to components specifically linked in the task.
- encourage candidates to spend time drawing system and sub-system diagrams.
- make sure candidates practise extensively using the simulation software or app to complete the assignment. For example, candidates can select any appropriate microcontroller to use in a circuit, but code generated in simulation software must fully match the flowchart and pin numbers specified in the task.

General

You should continue to use the materials available on the Understanding Standards website. These contain candidate evidence from past question papers and assignments, with supporting commentary, presentations and webinar recordings.

You can find more information and supporting documentation for the full course assessment on the National 5 Engineering Science subject page. This includes the course specification, past papers (question paper and assignment), specimen assignment and question paper and previous years' course reports.