Course report 2026

Higher Human Biology, SCQF level 6

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

Note: we've made changes to the course assessment from session 2026–27. Check your subject page for more information.

The report:

- provides a summary of how each course component performed
- highlights areas of the question papers 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.

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Statistical and grade boundary information

Course entries

Number of resulted entries in 2025: 7,318

Number of resulted entries in 2026: 7,399

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

Course award	Number of candidates	Percentage	Cumulative percentage	Minimum mark required
A	2,239	30.3	30.3	105
B	1,491	20.2	50.4	90
C	1,436	19.4	69.8	75
D	1,138	15.4	85.2	60
No award	1,095	14.8	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 1: multiple choice

This question paper performed as expected.

Question paper 2

This question paper performed as expected.

Assignment

The assignment performed as expected.

How candidates performed

Areas where candidates performed well

Candidates performed well in in skills-based questions. There was also a notable improvement in questions relating to investigations.

Question paper 1: multiple choice

Most candidates performed well in the following questions:

Question 1	Identifying exons and alternative splicing.
Question 2	Calculating the number of DNA molecules in PCR after a time period.
Question 3	Identifying three chromosome mutations.
Question 4	Identifying the type of metabolic pathways and whether ATP is required or produced.
Question 6	Explaining the effect of substrate concentration and enzyme activity.
Question 9	Matching the site of production of a hormone to its target tissue.
Question 10	Identifying the genotype of individuals from a pedigree chart.
Question 11	Comparing CVS to amniocentesis.
Question 12	Analysing data on blood flow after exercise.
Question 15	Calculating the percentage increase in blood glucose using data from a graph.
Question 16	Identifying converging, diverging and reverberating neural pathways from diagrams.
Question 17	Identifying functions of the cerebral cortex.

Question 18	Identifying function of the corpus callosum.
Question 19	Identifying the hormone involved in reducing the intensity of pain.
Question 20	Analysing data on myelination from a graph.
Question 22	Explaining data from a serial position effect experiment.
Question 24	Putting events following tissue damage in order.

Many candidates performed well in the following questions:

Question 5	Investigation variables.
Question 7	Identifying a suitable control.
Question 8	Stating the function of testosterone.
Question 14	Identifying protocols to make a study reliable.
Question 21	Analysing data on memory recall.
Question 23	Identifying the effect of sensitisation due to recreational drugs.
Question 25	Evaluating a clinical trial.

Question paper 2

Most candidates performed well in the following questions:

Question 1(a)(i)	Stating the term ‘differentiation’.
Question 1(b)(i)	Explaining that cancer cells do not respond to regulatory signals.
Question 2(a)(iii)	Naming the enzyme ligase.
Question 3(a)	Stating the mRNA sequence.
Question 3(d)	Calculating the number of babies with haemoglobin.
Question 4(a)	Stating the location of pyruvate production.
Question 4(e)(ii)	Calculating the percentage chance of a child having PDHD.
Question 6(a)(ii)	Describing the difference in body temperature and cervical mucus consistency.
Question 6(b)(i)	Naming the follicular and luteal phases.
Question 7(a)	Calculating the percentage change in length of the artery.
Question 8(a)(i)	Identifying group 1 as the control.
Question 8(b)(i)	Completing the line graph.
Question 9(a)(ii)	Describing the importance of the myelin sheath.
Question 11(a)(i)	Identifying the method as elaboration.
Question 11(b)	Stating that information can decay or be displaced from STM.
Question 13(a)(i)	Identifying that the individual with Parkinson’s disease has less dopamine.
Question 13(a)(ii)	Stating the effect of dopamine.

Many candidates performed well in the following questions:

Question 1(a)(ii)	Using information to explain why blood cells are described as multipotent.
Question 1(b)(ii)	Describing the data from the graph.
Question 2(a)(i)	Identifying the arrows as the direction of replication.
Question 3(b)(i)	Identifying the mutation as substitution.
Question 4(c)	Most candidates identified the substance as oxaloacetate. Few candidates described its role as combining with acetyl. A common mistake was to say oxaloacetate binds with acetyl coenzyme A.
Question 4(d)	Describing the effect of PDHD on ATP and lactate production.
Question 4(e)(i)	Stating the advantage of using pharmacogenetics.
Question 5(a)(i)	Calculating the whole number ratio.
Question 5(a)(ii)	Calculating how many times greater the percentage of fast twitch fibres are in a sprinter than in a long-distance runner.
Question 5(b)(iii)	Identifying that slow twitch fibres have more mitochondria or larger blood supply. A common mistake was not comparing the two types of fibres.
Question 6(a)(i)	Naming hormone X.
Question 6(b)(iii)	Describing the difference in hormone concentrations if the female became pregnant.
Question 7(b)(ii)	Suggesting how the reliability of the results could be improved.
Question 8(a)(ii)	Identifying variables to control to make the investigation valid.
Question 8(b)(iii)	Predicting the average sperm count of mice in group 2.

Question 8(c)	Describing a feature of artificial insemination that increases the chance of fertilisation.
Question 9(b)(i)	Most candidates identified the molecule as HDL. Some candidates described how HDL transported cholesterol to the liver for elimination. A common error was omitting the elimination part or suggesting it carried LDL to the liver.
Question 9(b)(iii)	Identifying the structure as endothelium and the other substance as calcium or fibrous material.
Question 9(c)(ii)	Suggesting that increasing substrate concentration reverses the effect of hirudin.
Question 10(b)(i)	Identifying the structure as the SAN. A common mistake was to identify this structure as the right atrium, not looking at the question stem, which stated that it brings about atrial systole.
Question 12(a)(ii)	Calculating the death rate from pneumonia.
Question 12(a)(iii)	Calculating the difference between emergency hospital admissions and the death rates from pneumonia.
Question 12(b)(i)	Naming a source of antigens. A common mistake was answering dead antigens.
Question 12(b)(ii)	Explaining that the adjuvant makes the vaccine more effective or enhances the immune response.
Question 13(b)	Naming agonists as the type of drug that mimics dopamine.
Question 14B	Writing notes on the nervous system.

Assignment

Candidate performance in the assignment also continued to improve.

Most candidates:

Section 1	Provided an appropriate aim, detailing the independent and dependent variables that clearly described the purpose of the investigation.
Section 3(b)	Had sufficient raw data including a replicate. The number and range of the data was appropriate for the aim.
Section 4(a)	Selected an appropriate format for their graphical representation.
Section 4(b)	Used suitable scales on the axes of their graphs.
Section 4(c)	Used appropriate labels and units for the axes of their graphs.
Section 4(d)	Accurately plotted their data points.
Section 8	Provided a clear and concise report with an informative title.

Many candidates:

Section 1	Provided an account of the underlying biology at Higher level that was relevant to the aim.
Section 3(c)	Presented data in a correctly produced table with clear headings and mean/average values calculated correctly.
Section 3(d)	Provided a second source of data that was relevant to the aim.

Areas where candidates did not perform well

Question paper 1: multiple choice

Question 13	Some candidates calculated cardiac output using data from a graph on stroke volume and heart rate.

Question paper 2

Some candidates:

Question 1(b)(iii)	Predicted the white blood cell count on day 34.
Question 2(b)	Described the role of RNA polymerase. Many candidates omitted nucleotides when describing the production of the mRNA.
Question 2(c)	Described the structure of the tRNA. Many candidates omitted the description of the folding of the molecule or details about it being single stranded and composed of nucleotides.
Question 3(b)(ii)	Explained that the mutation caused one amino acid to be different.
Question 3(c)	Suggested why individuals had increased blood lactate and experienced muscle fatigue. Many candidates did not state ‘less oxygen for’.
Question 4(b)	Described the role of pyruvate dehydrogenase. Many candidates did not state the removal of hydrogen ions and electrons.
Question 5(b)(i)	Stated the feature of fast twitch muscle fibres that make them useful for sprinting. Many candidates focused on structural features rather than contraction speed.
Question 6(b)(ii)	Stated that LH triggered the follicle to become the corpus luteum and the corpus luteum secretes progesterone.
Question 7(b)(i)	Explained why it was necessary to calculate a percentage change.
Question 7(c)(ii)	Identified that the stretch and recoil of the blood vessel was to accommodate the surge of blood or increase in blood pressure.

	Many candidates stated this was to withstand high pressure only, not the change.
Question 7(d)	Identified that smooth muscle can vasoconstrict and vasodilate. Many candidates indicated that elastic fibres were involved and not smooth muscle.
Question 8(b)(ii)	Concluded that regular alcohol consumption decreases the sperm count.
Question 9(a)(i)	Stated the function of cholesterol.
Question 10(b)(ii)	Described that the closing of the AV and SL valves were responsible for the sounds. Many candidates described the flow of blood through the heart.
Question 11(a)(ii)	Explained that elaboration is a deeper form of encoding. Many candidates explained the process of elaboration.
Question 12(a)(i)	Calculated the average increase in emergency hospital admissions.
Question 12(a)(iv)	Used the information to suggest a reason for a sharp increase in the number of hospital admissions. Many candidates did not use the information in the question stem.
Question 13(c)	Described how the release of neurotransmitter triggers an impulse. Many candidates did not state that the neurotransmitter diffused across the cleft or that it bound to receptors.
Question 14A	Describe the roles of lymphocytes. Many candidates stated that t-lymphocytes acted on pathogens rather than infected cells.

Few candidates:

Question 1(a)(iii)	Identified that different genes are expressed in phagocytes compared to lymphocytes. Many candidates gave a generic description of differentiation.
Question 2(a)(ii)	Identified that DNA polymerase can only add nucleotides to the 3′ end of the new DNA strand. Many candidates did not include the role of polymerase in their answer.
Question 5(b)(ii)	Stated the function of myoglobin and explained why slow twitch muscles had high concentrations.
Question 7(c)(i)	Identified the correct structure within the artery (elastic fibres) that allows the section of artery to return to the original size. Many candidates included answers linking this property to artery thickness or muscle size.
Question 9(b)(ii)	Identified that the synthesis of new receptors is inhibited/reduced.
Question 9(c)(i)	Suggested how hirudin prevented the formation of a clot. Even though the stem of the question states ‘Hirudin was a competitive inhibitor of thrombin’, many candidates did not identify that thrombin was the enzyme.
Question 10(a)	Calculated the duration of diastole during exercise.
Question 11(c)	Explained that chunking is grouping smaller units of information into larger units, even though many candidates could name chunking as the method to increase the capacity of the STM. Many candidates incorrectly described breaking down larger units into smaller units.
Question 12(a)(v)	Calculated the percentage of the total number of deaths that were due to pneumonia.

Assignment

Some candidates:

Section 3(a)	Demonstrated the ability to summarise their experimental procedure.
Section 3(e)	Provided a citation within the body of the report and the full reference later in the report.
Section 5	Provided a valid comparison or appropriate calculation linked to the aim of the investigation.
Section 6	Provided a valid conclusion that related to the aim and was supported by all the data in the report.
Section 7	Provided valid evaluative statements supported by appropriate justifications.

Preparing candidates for assessment

Question papers

You should continue to give candidates opportunities to carry out practical investigations where possible. Candidates still sometimes struggle with drawing a conclusion from investigation results. Many candidates continue to restate results when they write a conclusion.

You should ensure that candidates cover all content in the Higher course specification, as any of it may be included in the exam. This includes the key areas and depth of knowledge sections, and the apparatus and techniques section. Although you should encourage candidates to study past papers, remind them that this should not be their only form of revision. In the 2026 exam, candidates answered less well on topics that had not been included in recent past papers than on topics of a similar level of difficulty that had been included.

Assignment

The Higher Human Biology coursework assessment task, available on the subject page, outlines the assessment conditions for the assignment. You can find the standards for this component on the Understanding Standards website. You should consult these resources before delivering the assignment.

You should ensure that candidates can only access resources permitted for the report stage. These resources are detailed in the Higher Human Biology coursework assessment task. Candidates can take in raw experimental data, which may be tabulated. However, this tabulated data must not be in a fully completed table. Candidates must complete their table headings and calculate their averages under exam conditions in the report stage.

You should ensure that experiments used for the assignment are at Higher level and link to the key areas of human biology in the course specification. As in previous years, experiments that do not link to the current course specification are not recommended. Be aware that memory-based assignments score fewer marks than laboratory-based assignments. These non-practical assignments do not align with

the requirements of the coursework assessment task. If you have used them before, you should consider changing to a laboratory-based assignment.

Aim

When writing the aim, candidates should refer to the independent and dependent variables, specifying what they are changing and what they are measuring. If they indicate a specific substance or enzyme in the aim, they must refer to it in subsequent sections, including the internet/literature source.

Underlying biology

The knowledge candidates include must be at Higher level or above and cover topics in the aim. The underlying biology must include expanded descriptions written in their own words, not reorganised sentences from texts.

Data collection and handling summary

The summary must allow the reader to visualise the experiment. Candidates should avoid too much detail, but they should name the independent variable and any key chemicals they used. They should not include volumes, concentrations or temperatures in the summary, unless they refer to the independent variable. Candidates must describe how they measured the dependent variable; for example, a stopwatch to measure the time for a disc to rise or a measuring cylinder to measure volume.

Data presentation

Tables must contain clear headings, units and correctly calculated averages. If candidates use a chemical for the independent variable, they must name it in the table. Candidates must not construct a pre-populated table in the research stage. They must calculate the averages and write the headings in the report stage.

Internet/literature source

Candidates must select a source that links to both aspects of the aim of the investigation. You should encourage them to insert statements indicating how it links to their aim.

Citation and reference

Candidates must cite their data source. They should enter the citation alongside their chosen source. One way is to put a number next to the source, for example, (1). They should not write the full reference under the source, but at the end of the report, linked to the citation.

Analysis

You should make sure candidates have a clear understanding of the experiments they will carry out, especially complicated enzyme experiments. Candidates can lack understanding when they make an indirect measurement for the dependent variable; for example, time for a disc to rise as a measurement of enzyme activity. This can affect their ability to analyse and conclude from their data.

Candidates must give the x-axis values (with units) used in the analysis for a comparison or a calculation. They must link the analysis to their aim. When candidates make an indirect measurement of the dependent variable, they must link this measurement to their aim. For example, in enzyme experiments where enzyme activity is measured indirectly by time for a disc to rise, candidates must link the indirect measurement (time to rise) to the dependent variable (enzyme activity).

When making a comparison, candidates must link any measurements they are comparing to the aim. Similarly, when candidates are making a calculation, they must link the results they obtain to their investigation aim.

When a candidate has chosen a discrete variable for their independent variable — for example, types of sugar — if their internet or literature data contains additional sugars to the ones they have used, they only need to compare the common sugars from the internet or literature data.

Conclusion

You should remind candidates that their conclusion must relate to their aim and be supported by all the data in their report. This means that they must refer to their experimental data, and source data if it is relevant.

If a candidate chooses an indirect measurement in their experiment, their conclusion must not only describe the results. It must refer to the dependent variable given in the aim.

For discrete data with only three categories, candidates should state which categories have the highest and lowest dependent variable results. For data with more than three categories, candidates must rank them in order.

Evaluation

Candidates can evaluate experimental controls, variables, errors and potential improvements. In all cases, they must include an appropriate justification to support any evaluative comment. Candidates do not need to use the terms ‘valid’, ‘reliable’ and ‘accurate’. If they want to use these terms, they must use them correctly.

Candidates can only gain 1 mark for an appropriate evaluation of the data or information from the internet or literature source.

Structure

The title must provide information about both aspects of the aim.

Changes to the course assessment from session 2026–27

- Replaced Question Paper 1 and Question Paper 2 with a single question paper that has two sections:
    - Section 1 has multiple-choice questions worth 20 marks.
    - Section 2 has restricted-response questions and extended-response questions worth 80 marks.
- New question paper is worth 100 marks in total and lasts 2 hours and 30 minutes.
- Assignment is still worth 20 marks, and we’ll scale this to 25 marks instead of 30.
- We’ve removed ‘Appendix 2: question paper brief’ and published this as a separate document.

We’ve amended the question paper details in the course specification. There's no change to teaching and learning. You might want to update your assessments, for example prelims, to reflect the changes to the question paper.