

Higher Biology (revised) and Higher Human Biology (revised)

Frequently Asked Questions

The Course content tables contain more detail than in the previous Higher Biology and Higher Human Biology Courses. Why is this?

The purpose of the content and notes in the content tables is to give a clear description of what learners need to know and be able to do. This open and transparent approach means that teachers and lecturers as well as examining teams are working to the same understanding and avoids teachers and lecturers having to interpret past examination questions to determine what is required for assessment.

Are learners expected to know all of the biology in all three columns of the content tables?

No. In the examination, questions on Knowledge and Understanding will only be based on the *Content* and *Notes* columns of the content tables and the introduction to the content tables for each Unit. The third column *Suggested Learning Activities and Approaches* is there to support teachers in developing a curriculum suited for their learners.

Why has Knowledge and Understanding in the Course content section been divided into three sections; demonstrating knowledge, applying knowledge and demonstrating understanding?

Biology examinations have always tested these areas. By now dividing Knowledge and Understanding into these three areas we aim to make it clearer to learners, their teachers and lecturers what we mean by Knowledge and Understanding.

Will examinations continue to have questions based on problem solving skills and practical abilities?

Yes. Questions on *Skills of scientific experimentation, investigation and enquiry* and *Skills for learning, life and work* will be based on the specification for these skills in the Course content section of the National Course specification. Skills questions will be based in a variety of contexts as they are at present, some of which may be unfamiliar. From time to time some contexts for skills questions may be drawn from areas in the *Suggested Learning Activities and Approaches* column.

What is the purpose of the section on *Guidance on Learning and Teaching Approaches for this Course*?

Along with the *Suggested Learning Activities and Approaches* column in the content tables this section is to support teachers and lecturers in developing a curriculum to suit learners. It includes the purposes of learning in biological science and identifies capabilities that will support learners in becoming proficient in the skills of scientific experimentation, investigation and enquiry and skills for learning, life and work. In this way by developing a curriculum in Biology or Human Biology in which the preparation for assessment is only one component, learners will be prepared for further education, training and employment in areas associated with life science as well as becoming scientifically literate citizens of the twenty first century.

Where do these revised Highers fit in with Curriculum for Excellence?

In revising these qualifications cognisance has been taken of the principles and practice of Curriculum for Excellence. These qualifications will run in parallel with the existing qualifications until the introduction of the Higher phase of CfE in session 2014/2015. It is not anticipated that the content of these revised Highers will alter significantly other than the normal adjustments to any new qualification in the light of operational experience. When the equivalent CfE Highers are introduced the pattern of assessment may alter to come in line with CfE approaches to assessment across the curriculum. This is why the present pattern of assessment has been retained for these qualifications.

The *Suggested Learning Activities and Approaches* make reference to case studies. What is meant by a case study?

A case study is a set of learning activities related to a theme, topic or application of biology. It need not necessarily follow the order of the content statements of the Course and could integrate learning from different areas of the Course demonstrating the interrelationships between aspects of biology. It should provide opportunities to meet the interests and aptitudes of learners allowing for a degree of personalisation and choice. It should identify for the learner the content areas that will be covered and the skills developed so that the learner can prepare for assessment in addition to any wider learning objectives. It should contain opportunities for scientific practical work. LTS are currently preparing a number of case studies together with other support materials for Higher Biology and Higher Human Biology.

Do all the suggested case studies have to be attempted?

No. Case studies should be selected to meet the needs and aptitudes of learners along with other approaches to learning as appropriate. There is no requirement to follow the case studies suggested; centres should feel free to develop their own case studies.

What practical work is appropriate to prepare candidates for the Higher qualifications?

Practical work is an essential part of learning in the Higher Courses. Practical activities should be chosen with clear learning intentions in mind. Some practical work can support learners' understanding of concepts and ideas in biology; others are suited for developing skills of planning and designing experimental work and others for presenting and analysing data and drawing conclusions. Practical work also provides learners with the opportunity to apply the critical skills they have developed in evaluating scientific research. To achieve this learners should experience a range of biological practical work encompassing; field work, surveys, research, observation, recording and measurement, work with whole organisms (including microorganisms) and 'wet lab' experimental work.

What practical work is suitable for the assessment of Outcome 3?

As at present, experimental work for Outcome 3 must provide learners with the opportunity to meet all of the Performance Criteria for the Outcome. If a practical is still in the context of a Unit in the Higher Course then it can continue to be used as evidence for Outcome 3. Although the assessment of Outcome 3 is unchanged the evidence need not be in the form of a lab report. The evidence may be presented as a scientific poster, scientific paper, scientific presentation, video or web page as an alternative to a conventional lab report.

Higher Chemistry (revised) and Higher Physics (revised) have a Researching Unit. Why do Higher Biology (revised) and Higher Human Biology (revised) not have an equivalent Unit?

All Higher Courses in science subjects aim to develop the same skills of researching information, planning and carrying out investigative practical work and communicating findings. In Higher Biology (revised) and Higher Human Biology (revised) learners should be provided with opportunities throughout the Course to develop these skills in situations which lend themselves naturally to achieving these learning intentions. In this way skills can be developed to suit learners' progress and needs over the length of the entire Course without the pressure of Unit assessment.

What changes have been made to the format of Unit and Course assessment?

There have been no changes to the format of Unit assessment other than accepting alternatives to a traditional lab report for Outcome 3. The Course assessment examination will continue to have the present format. Examining teams will continue to develop question styles within the present format to reflect the emphasis in the new arrangements in areas such as applying scientific skills in contexts with ethical considerations and evaluating risk. There is now more scope in these new arrangements to examine the principles of experimental design.

Will there be NABS and a specimen exam paper?

Yes. These qualifications are being produced under existing design rules and so NABS for Unit assessment will be produced. A specimen exam paper for each Higher is being prepared and will be published in February/March 2011.