

SCIENCE - BIOLOGY

KS5 (AQA AS AND A-LEVEL BIOLOGY)

Course Overview

Studying Biology allows students to understand life at all levels; from the small molecules inside cells to appreciating how to prevent disease in whole organisms, to understanding how organisms interact in the natural environment.

The AQA course leads students through a wide scope of ideas systematically. In the second half of the course, respiration and photosynthesis are examined in detail, followed by muscle and neuron ultrastructure; we study the biological basis of treatments for depression and schizophrenia and then research genetic diseases and inheritance. We finish with a section on how DNA can be manipulated in research, which is important knowledge in many biomedical careers.

We take students to mainland lectures and also invite in external speakers to support A-level learning. Annual trips are undertaken to St Helens beach to allow for additional ecology practical work to be undertaken. In addition, trips have been run to the Natural History Museum, the Bodyworks exhibition and Kew Gardens.

YR13



Course Content

- Energy transfers in and between organisms
- Organisms respond to changes in their internal and external environments
- Genetics, populations, evolution and ecosystems
- The control of gene expression

Skill Development

Assessment objectives (AOs) are set by Ofqual and are the same across all AS and A-level Biology specifications and all exam boards. The exams will measure how students have achieved the following assessment objectives.

AO1: Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures

AO2: Apply knowledge and understanding of scientific ideas, processes, techniques and procedures:

- in a theoretical context
- in a practical context
- when handling qualitative data
- when handling quantitative data

AO3: Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues, to:

- make judgements and reach conclusions
- develop and refine practical design and procedures.

As well as gaining a deep understanding of biology, students will develop practical skills through the delivery of a wide range of investigations. They will become adept at number manipulation and data analysis skills and will interpret and explain data in deep detail.

Critical thinking and applying knowledge to unknown situations are important in A level biology.

Time management and teamwork also play a vital role across both years of study as the volume of information and its application require a solid commitment throughout the whole course. Students find that the further they delve into a subject, the more rewarding the study of biology becomes. As with all A levels, students benefit from specialist staff who have a deep love of their subject.



Specification link

<https://filestore.aqa.org.uk/resources/biology/specifications/AQA-7401-7402-SP-2015.PDF>

When and how assessment of learning will happen

In year 13, assessment follows a unit of teaching. This is approximately once a half term. This assessment will be approximately 60 minutes long and take place under standard exam conditions. These assessments shall be built using past AQA A-Level Biology questions relevant to the unit of study at that assessment point.

Mock exams happen at set points in the year, as per year 12 the mock exams are whole past papers from previous years, sat under formal exam conditions in the hall.

Formative assessment of progress and understanding will happen every lesson, the format of which could be questioning, mini-whiteboards or other strategies.

The final exams/ assessment

In terms of terminal exams, the A-level is assessed in 3 two-hour written papers at the end of Year 13. Practical work is assessed throughout the written exams. The first paper covers the content of Year 1, the second paper Year 2 and the third paper is synoptic with all content covered, and an essay.

The practical skills are assessed by the class teacher over two years and lead to a separate Pass accreditation on the A level certificate.



Independent Learning Expectations

After each lesson, in addition to completing any set work, a pro-active, independent learner would:

- Ensure notes are completed and filed suitably in a folder
- Read the relevant textbook chapter and annotate lesson notes with additional relevant content
- Make a list of things not fully understood and discuss with a peer or teacher before the next lesson.
- Try to summarise the content of the lesson in note, flow chart or diagrammatic format to diagnose lack of understanding
- Try to commit factual information to memory immediately, rather than leaving it until revision
- Annotate a copy of the specification using marked and assessed work to show areas of weakness
- Apply factual knowledge to novel situations by seeking out sources of extra questions
- Read the textbook chapter on the next topic before the next lesson.
- Practise past paper exam questions to familiarise themselves with the level of demand required from an A-Level Biology answer.



Useful Information

Class notes and resources are found on google classroom. Resources are organised by topic (including past paper questions and mark schemes)

A textbook recommended by AQA is essential. There are two main recommendations that we have at Christ the King. Please check eBay and second hand sellers (new and used on Amazon can be good) for copies of these too.

- [AQA Biology: A Level: September 2015 \(AQA A Level Sciences 2014\) Paperback](#)
- [A-Level Biology for AQA: Year 1 & 2 Student Book with Online Edition: course companion for the 2025 and 2026 exams \(CGP AQA A-Level Biology\) Paperback](#)

<https://thebiologist.rsb.org.uk/biologist-> A great resource for up-to-date Biology research

[https://www.savemyexams.com/a-level/biology/aqa/17/-](https://www.savemyexams.com/a-level/biology/aqa/17/) fantastic revision notes with clear diagrams

[https://www.physicsandmathstutor.com/biology-revision/a-level-aqa/-](https://www.physicsandmathstutor.com/biology-revision/a-level-aqa/) revision notes and past paper questions

<https://senecalearning.com/en-GB/revision-notes/a-level/biology/aqa-> metacognitive revision notes with quizzes

<https://www.youtube.com/watch?v=UMxYHES27Rc-> whole of the biology A Level course video by Primrose Kitten

Tiktok:

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