# Science

## GCE Biology

The course studied is the **AQA Advanced Level GCE in Biology** (7402)

| Paper 1 | Paper 2 | Paper 3 |
|---|---|---|
| 2 hour written examination<br>Content from units 1-4<br>Relevant practical skills | 2 hour written examination<br>Content from units 5-8<br>Relevant practical skills | 2 hour written examination<br>Content from units 1-8<br>Relevant practical skills |
| 35% of A-level | 35% of A-level | 30% of A-Level |

Students will also be assessed by the teacher via practical investigations to ensure they meet the required practical competencies to pass the course.

- **Units 1-8**
  1- Biological molecules
  2- Cells
  3- Organisms exchange substances with their environment
  4- Genetic information, variation and relationships between organisms
  5- Energy transfers between organisms
  6- Organisms respond to changes in their internal and external environment
  7- Genetics, populations, evolution and ecosystems 8- The control of gene expression

- http://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402
  .

**AQA GCE Chemistry**

- Practical Skills that students undertake ***throughout*** the course will also be assessed in the written papers.
- Below is a link to the appropriate specification section, including assessment resources:
- http://www.aqa.org.uk/subjects/science/as-and-a-level/chemistry-7404-7405
- .
- Should students want further clarification they can contact Mr. Amin or Mr. So, Curriculum Leader in Chemistry.

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| **Paper 1: Inorganic and Physical Chemistry**<br><br>**35% A Level** | Examination in June at Y13. 120 minute paper. Out of 105 marks. 105 marks of short and long answer questions. Assessed on relevant physical chemistry topics (sections 3.1.1 to 3.1.4, 3.1.6 to 3.1.8 and 3.1.10 and 3.1.12), inorganic chemistry (section 3.2) and relevant practical skills. |
| **Paper 2: Organic and Physical Chemistry**<br><br>**35% A Level** | Examination in June at Y13. 120 minute paper. Out of 105 marks. 105 marks of short and long answer questions. Assessed on relevant physical chemistry topics (sections 3.1.2 to 3.1.6 and 3.1.9), organic chemistry (section 3.3) and relevant practical skills. |
| **Paper 3:**<br><br>**30% A Level** | Examination in June of the A2 year. 90 minute paper. Out of 120 marks. 40 marks of questions on practical techniques and data analysis. 20 marks of testing across the specification and 30 marks of multiple choice questions. Assessed on any content and any practical skills. |

**There are six required practical skills assessments at AS; there are twelve required practical skills assessments at A2.**

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| **Timetable** | 5 hours per week, to include laboratory sessions. |
| **Resources Provided** | All the course notes are provided for students to work from. A lab book will be provided. They include sections to be completed by the students during the lesson and for homework.<br>Text books, past papers and lab coats are provided. |
| **Resources Needed** | Lined paper, A4 ring binder and dividers.<br>A scientific calculator is essential. |
| **Lessons** | Theory: working through the set notes with written exercises for the students. These notes address all areas of the specification including 'How Science Works'. Additional materials will be provided as appropriate.<br>Practical: a variety of techniques for preparing and analysing substances. |
| **Homework** | Set as appropriate as either a follow up to the lesson, a completion of the practical work or past paper questions or preparatory learning before a new topic. |
| **Independent Learning** | The work covered in each lesson needs to be followed up with reading from the relevant section of the text book. This together with reading through the notes again and completing the various exercises will check the understanding of the lesson. |
| **Support** | Staff available during the school day to support and advise.<br>Learning resources will be made available through the VLE. |

**AQA GCE Physics**

The A level in Physics was launched in September 2015 and has been adapted to incorporate some new aspects of Physics and change the way it is assessed. The course is varied and covers a wide range of topics and is an excellent grounding in the subject whether you are studying it with a view of a degree in Physics or as a companion to other subjects. The AQA Physics course is heavily mathematical and does use some advanced concepts but this is introduced gently and you do not have to be studying A level Mathematics in order to cope with the Physics course.

Due to the examination changes the Physics exams are very different depending on if you are studying for the AS level or the A level however the material is identical. Alongside this students are also expected to detail all of their experiments and investigations in a lab diary instead of the traditional coursework examination.

Name of A level and specification:

Physics – AS Specification 7407 (Sections 1 to 5), A level Specification 7408 (Sections 1 to 9)

1. Measurements and their errors
2. Particles and radiation
3. Waves
4. Mechanics and materials
5. Electricity
6. Further mechanics and thermal physics
7. Fields and their consequences

8. Nuclear physics
9. Astrophysics How will this be assessed:

**For AS students:**

**Paper One**
Covering Sections 1 to 5
70 marks of short and long answer questions split by topic

**Paper Two**
Covering Sections 1 to 5 70
marks in three sections:
Section A – 20 marks of short and long answer questions on practical skills and data analysis
Section B – 20 marks of short and long answer questions from across areas of AS content Section
C – 30 multiple choice questions

**Practical Assessment**
A detailed write-up of 6 practical experiments in a lab book covering a range of scientific skills that will be assessed randomly throughout the exam papers.

**For A level students**

**Paper One**
Covering Sections 1 to 5 but also including 6.1 (Periodic Motion)
60 marks of short and long answer questions and 25 multiple choice questions

**Paper Two**
Covering Sections 6.2 (Thermal Physics), 7, and 8 but also assuming knowledge from 1 to 6.1
60 marks of short and long answer questions and 25 multiple choice questions

**Paper Three**
Section A on Practical skills and data analysis
45 marks of short and long answer questions on practical experiments and data analysis Section
B on Unit 9
35 marks of short and long answer questions

**Practical Assessment**
A detailed write-up of 12 practical experiments in a lab book covering a range of scientific skills that will be assessed randomly throughout the exam papers.

Link to relevant page on exam board website http://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/spec-at-a-glance