

Year 12

Enrolment Task

Physics

Exam Board: AQA

Course Specification:

<https://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408>

Specification at a glance

The specification is a useful reference document for you. The most relevant areas of the specification for students are the following:

- Section 3: Subject content
- Section 6: Maths requirements and examples
- Section 7: Practical assessment

In Physics the subject content is split between AS and A-level. Sections 3.1–3.5 are common for AS and A-level, sections 3.6–3.8 are A-level only content, and the A-level only options are in sections 3.9–3.13. You will study one of the option choices at A-level, this is usually decided by your teacher depending on resources.

The section titles are listed here.

- 3.1 Measurements and their errors
- 3.2 Particles and radiation
- 3.3 Waves
- 3.4 Mechanics and materials
- 3.5 Electricity
- 3.6 Further mechanics and thermal physics (A-level only)
- 3.7 Fields and their consequences (A-level only)
- 3.8 Nuclear physics (A-level only)
- 3.9 Astrophysics (A-level option)
- 3.10 Medical physics (A-level option)
- 3.11 Engineering physics (A-level option)
- 3.12 Turning points in physics (A-level option)
- 3.13 Electronics (A-level option)

Each section of the content begins with an overview, which describes the broader context and encourages an understanding of the place each section has within the subject. This overview will not be directly assessed.

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Teacher: Miss M Walker

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The specification is presented in a two-column format. The left-hand column contains the specification content that you must cover, and that can be assessed in the written papers.

The right-hand column exemplifies the opportunities for Maths and practical skills to be developed throughout the course. These skills can be assessed through any of the content on the written papers, not necessarily in the topics we have signposted.

Assessment structure

AS

The assessment for the AS consists of two exams, which you will take at the end of the course.

Paper 1	Paper 2
What's assessed <ul style="list-style-type: none"> Sections 1-5 	What's assessed <ul style="list-style-type: none"> Sections 1-5
How it's assessed <ul style="list-style-type: none"> Written exam: 1 hour 30 mins 70 marks 50% of the AS 	How it's assessed <ul style="list-style-type: none"> Written exam: 1 hour 30 mins 70 marks 50% of the AS
Questions <ul style="list-style-type: none"> 70 marks of short and long answer questions split by topic 	Questions <ul style="list-style-type: none"> 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 all areas of AS content Section C: 30 multiple choice questions

A-level

The assessment for the A-level consists of three exams, which you will take at the end of the course.

Paper 1	Paper 2	Paper 3
What's assessed <ul style="list-style-type: none"> Written exam: 2 hours 85 marks 34% of the A-level 	What's assessed <ul style="list-style-type: none"> Sections 6.2 (Thermal Physics), 7 and 8 Assumed knowledge from sections 1–6.1 	What's assessed <ul style="list-style-type: none"> Section A: Compulsory section: Practical skills and data analysis Section B: Students enter for one of sections 9, 10, 11, 12 or 13
How it's assessed <ul style="list-style-type: none"> Written exam: 2 hours 85 marks 34% of the A-level 	How it's assessed <ul style="list-style-type: none"> Written exam: 2 hours 85 marks 34% of the A-level 	How it's assessed <ul style="list-style-type: none"> Written exam: 2 hours 80 marks 32% of the A-level
Questions <ul style="list-style-type: none"> 60 marks of short and long answer questions and 25 multiple choice questions on content. 	Questions <ul style="list-style-type: none"> 60 marks of short and long answer questions and 25 multiple choice questions on content. 	Questions <ul style="list-style-type: none"> 45 marks of short and long answer questions on practical experiments and data analysis. 35 marks of short and long answer question on optional topic

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Assessment objective

As you know from GCSE, we have to write exam questions that address the Assessment objectives (AOs). It is important you understand what these AOs are, so you are well prepared. In Physics there are three AOs.

- AO1: Demonstrate knowledge and understanding of scientific ideas, processes, techniques, and procedures (A-level about 30% of the marks).
- 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
 - (A-level about 45% of the marks).
- AO3: Analyse, interpret, and evaluate scientific information, ideas, and evidence, including in relation to:
 - make judgements and reach conclusions
 - develop and refine practical design and procedures
 - (A-level about 25% of the marks).

Other assessment criteria

At least 40% of the marks for AS and A-level Physics will assess mathematical skills, which will be equivalent to Level 2 (Higher Tier GCSE Mathematics) or above.

At least 15% of the overall assessment of AS and A-level Physics will assess knowledge, skills and understanding in relation to practical work.

Command words

Command words are used in questions to tell you what is required when answering the question. You can find definitions of the command words used in Physics assessments on the [website](#). They are very similar to the command words used at GCSE.

Subject-specific vocabulary

You can find a list of definitions of key working scientifically terms used in our AS and A-level specification [here](#).

You will become familiar with, and gain understanding of, these terms as you work through the course.

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Enrolment Task:

Complete the attached activities.

The following activities cover some of the key skills from GCSE science that will be relevant at AS and A-level. They include the vocabulary used when working scientifically and some maths and practical skills.

You can do these activities independently or in class. The booklet has been produced so you can complete it electronically or print it out and do the activities on paper.

The activities are **not a test**. Try the activities first and see what you remember and then use textbooks or other resources to answer the questions. **Don't** just go to Google for the answers, as actively engaging with your notes and resources from GCSE will make this learning experience much more worthwhile.

The answer booklet guides you through each answer. It is not set out like an exam mark scheme but is to help you get the most out of the activities.

Understanding and using scientific vocabulary

Understanding and applying the correct terms are key for practical science. Much of the vocabulary you have used at GCSE for practical work will not change but some terms are dealt with in more detail at A-level so are more complex.

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