STAFFORD
SIXTH FORM

Course title: Physics A Level AQA

Academic year:	2027
Course Venue:	Sir Graham Balfour High School
Course Type:	A level
Duration:	2 years

Course Content:
The AQA A level Physics syllabus is a 2 year course compromising the following core component and is assessed through 3 papers at the end of the course.

Year 1

1. Measurement and errors
2. Particles and Radiation
3. Waves
4. Mechanics and Materials
5. Electricity

Year 2

6. Further Mechanics and Thermal Physics
7. Fields and their consequences
8. Nuclear Physics
9. Astrophysics

Paper 1	Paper 2	Paper 3
What's assessed Sections 1–5 and 6.1 (Periodic motion)	**What's assessed** Sections 6.2 (Thermal Physics), 7 and 8 Assumed knowledge from sections 1 to 6.1	**What's assessed** Section A: Compulsory section: Practical skills and data analysis Section B: Students enter for **one** of sections 9, 10, 11, 12 or 13
Assessed • written exam: 2 hours • 85 marks • 34% of A-level	**Assessed** • written exam: 2 hours • 85 marks • 34% of A-level	**Assessed** • written exam: 2 hours • 80 marks • 32% of A-level
Questions 60 marks of short and long answer questions and 25 multiple choice questions on content.	**Questions** 60 marks of short and long answer questions and 25 multiple choice questions on content.	**Questions** 45 marks of short and long answer questions on practical experiments and data analysis. 35 marks of short and long answer questions on optional topic.

Practical Work:
Through hands-on experimental investigations, you will gain practical skills for higher education and STEM careers.

Throughout the course, you will carry out core practical activities, including:

- **Stationary Waves:** Investigating factors affecting frequency on a stretched string.
- **Thermal Physics & Sensors:** Investigating how temperature affects thermistor resistance.
- **Resonance:** Exploring driven systems and resonant frequency.
- **Wave Optics:** Measuring interference effects using Young's double slits and diffraction gratings.
- **Mechanics:** Determining gravitational field strength (g) using free-fall methods.

Skills
By completing these investigations, you will master real-world skills:

1. **Data & Error Analysis:** Precision measurement, calculating uncertainty, and processing experimental data.
2. **Instrumentation & Sensors:** Using oscilloscopes, signal generators, and digital meters.
3. **Experimental Design:** Identifying variables, managing risk, and evaluating method reliability.

Transferable Skills
Beyond technical capability, practical work builds key personal and professional strengths. You will develop **teamwork and communication** when collaborating on investigations, alongside **independent research and technical reporting**. Working through complex set-ups fosters **resilience, problem-solving, and confidence**. Managing your time to meet lab deadlines helps build strong **organisational skills**, while experimental analysis sharpens **memory, imagination, and critical thinking**.

These practical skills directly support further study and careers in:

- **Engineering:** Mechanical, electrical, civil, and aerospace fields.
- **Data Science & Computing:** Statistical modelling and quantitative analysis.
- **Applied Sciences:** Astrophysics, medical physics, and renewable energy technology.

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Practical Endorsement
You will keep a dedicated practical logbook to record your experiments and skill progression, which is externally moderated.

While there is no separate coursework unit, practical assessment works as follows:

- **Written Examinations:** At least **15%** of the marks in your final written papers will test your understanding of practical work and theoretical techniques.
- **Practical Endorsement:** A **Pass/Fail** grade for core practical competency will be reported alongside your final A-Level grade on your certificate.

Entry requirements:
The standard entry criteria to study in the sixth form are a 9-5 in at least five different subjects, including English and mathematics, which would usually be at grade 4 or above.

To study science subjects at A-level (biology, chemistry, physics or psychology), you will be required to achieve at least a 6 grade in trilogy science or have achieved 6 or above in the individual subject area if taken as a separate science.

Financial Information: N/A

A-Level Physics is known for its rigorous focus on logic, problem-solving, and analytical thinking, it is highly valued by top universities and employers across all sectors.

Higher Education & Degree Options
Physics opens doors to a wide range of degree subjects, including:

- **Physical Sciences:** Physics, Astrophysics, Geophysics, and Theoretical Physics.
- **Engineering:** Aerospace, Mechanical, Civil, Electrical, and Biomedical Engineering.
- **Computer Science & Data:** Software Development, Artificial Intelligence, and Data Analytics.
- **Interdisciplinary & Professional Fields:** Medicine, Architecture, Economics, Finance, and Law.

Career Pathways
The skills you build in Physics transfer directly into high-growth, high-demand industries:

- **Engineering & Tech:** Electronics Engineer, Aerospace Engineer, Mechanical Engineer, Sound Engineer, Structural Engineer, Telecommunications Specialist.
- **Research & Development:** Astrophysicist, Particle/Accelerator Physicist, Experimental Physicist, Quantum Researcher, Climate & Weather Scientist.

- **Healthcare & Medical Technology:** Medical Physicist, Clinical Scientist, Diagnostic Radiographer.
- **Aviation & Operations:** Commercial Pilot, Air Traffic Controller, Logistics & Systems Analyst.
- **Finance, Law & Creative Technology:** Quantitative Analyst, Patent Attorney, Technology Lawyer.

Further information:
Find out more at: aqa.org.uk/science