

# A level Physics



# AS and A-level Physics



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Physicists explore the fundamental nature of almost everything we know of. They probe the furthest reaches of the earth to study the smallest pieces of matter. Join them to enter a world deep beneath the surface of normal human experience.



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# 2 Year Course Content

AS and first year of A-level	Second year of A-level
Measurements and their errors	Further mechanics and thermal physics
Particles and radiation	Fields
Waves	Nuclear physics
Mechanics and energy	Plus <b>one</b> option from the following – ask your teacher which is offered at your school or college
Electricity	Astrophysics
	Medical physics
	Engineering physics
	Turning points in physics
	Electronics



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## Practical Endorsement

12 compulsory practicals over the two year course

Develop CPAC skills common to all a level sciences:

- following procedures
- applying investigative approaches
- Safe use of equipment
- Making and recording observation
- researching referencing and reporting

## Practicals

Physics, like all sciences, is a practical subject. Throughout the course you will carry out practical activities including:

- investigating interference and diffraction of laser light
- measuring acceleration due to gravity
- investigating systems that oscillate
- investigation of the links between temperature, volume and pressure
- safe use of ionising radiation
- investigating magnetic fields.

These practicals will give you the skills and confidence needed to investigate the way things behave and work. It will also ensure that if you choose to study a Physics-based subject at university, you'll have the practical skills needed to carry out successful experiments in your degree.



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# Assessment

## Exams

There is no coursework on this course. However, your performance during practicals will be assessed.

There are three exams at the end of the two years for A-level, all of which are two hours long. At least 15% of the marks for A-level Physics are based on what you learned in your practicals.

3X 2hr written Examinations during summer of 2<sup>nd</sup> year

Questions assess a mixture of Knowledge, application and analysis

At least 40% of questions require the use of Mathematical skills



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# Suitability for Course

- Entry Requirements: Combined Science Grade 6 or above or GCSE Physics grade 6 or above. Also grade 6 or above in GCSE Maths.
- A-Level Physics is a challenging subject that requires a strong foundation in mathematics and a keen interest in the natural world. Students who are curious about the fundamental principles that govern the universe and enjoy problem-solving would find this subject rewarding



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# Where can this course lead you?

## Possible degree options

According to **bestcourse4me.com**, the top seven degree courses taken by students who have an A-level in Physics are:

- Mathematics
- Physics
- Mechanical Engineering
- Computer Science
- Civil Engineering
- Economics
- Business.



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# Where can this course lead you?

The study of physics can help you progress into a wide range of career areas, for example; **applied physics, astrophysics, geophysics, material technology, forensic science, engineering, meteorology and medical physics**. Some other complementary career areas include **medicine, mathematics, computing, finance, law, accountancy** and many more.

If you progress to university, physics graduates **are highly employable** and their career options are very wide. You may go on to apply your physics knowledge directly in a scientific or engineering environment, or might use your mathematical knowledge in finance, your computing skills in software, or your problem-solving skills in business.



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# Where can this course lead you?

## Possible career options

Studying A-level Physics offers an infinite number of amazing career opportunities including:

- Geophysicist/field seismologist
- Healthcare scientist, medical physics
- Higher education lecturer
- Radiation protection practitioner
- Research scientist (physical sciences)
- Scientific laboratory technician
- Secondary school teacher
- Meteorologist
- Structural engineer
- Acoustic engineer
- Product/process development scientist
- Systems developer
- Technical author.

You can also move into engineering, astrophysics, chemical physics, nanotechnology, renewable energy and more, the opportunities are endless.



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# Where can you get more information?

Contact: Mr Jones or Mrs Platts