

Support materials for the course:

STUDENT BOOK

“Story” sections

“Warm-up” exercises

Questions (with answers)

Physics explanation boxes

Maths explanation boxes

Links to CD

Activities

Computer activities Summaries



STUDENT CD:

Physics at your fingertips

- all the facts you need

Course Guide

- how it fits together and what you have to do

Resource Finder

- physics models to manipulate

- computer tools to use

- images and tables to use



Physics

Information

For more information about the **Advancing Physics** course visit the Institute of Physics website at: <http://advancingphysics.iop.org>

INTERNET

Student web site

- updated resources

- guidance with the tricky bits

- links to careers and Higher Education



AQUINAS COLLEGE

NANGREAVE ROAD • STOCKPORT • CHESHIRE • SK2 6TH

TEL: 0161 483 3237 • FAX: 0161 487 4072

Email: enquiries@aquinas.ac.uk • www.aquinas.ac.uk

What is physics ?

Physics is a key part of science and technology. It deals with how and why things behave as they do. Physics is used to solve problems - environmental problems, social problems, health problems, etc. It's about practical things but also involves ideas such as the origin of the universe and the tiniest building blocks of all materials.

What course is followed ?

Advancing Physics. This is a brand new course for AS and A level which has been developed by OCR and the Institute of Physics.

What does the course involve ?

The AS (Advanced Subsidiary) course is taken in the Lower Sixth. At the end of the course you should know more about what physics involves and its place in the world. At the same time it will give you a sound foundation if you choose to go on to the second year to take the A level (A2) course.

The A2 (Advanced level) course leads on to an A level Physics qualification which will enable you to go on to study physics or engineering at university. At the same time it will provide an interesting and stimulating course if do not pursue the subject further.

Some of the topics studied in the course:

- **Communication** - is about imaging and instrumentation.
- **Designer Matter** - examines what the world is made of.
- **Waves and Quanta** - introduces some simple quantum ideas.
- **Space and Time** - moves from mechanics to relativity and cosmology.
- **Change and Motion** - introduces the use of mathematical modelling in physics.
- **Very Large and Very Small** - develops the field model with applications to the Universe, atoms and nuclei.
- **Matter in Extremes** - develops a bridge between random events and experimental observations.
- **Shaping New Worlds** - links physics, technology and society to radiation, power production and electromagnetic machines.

How is the course assessed ?

The course has a modular scheme of assessment - this means that exams can be taken during the course (in January) and at the end of each year (June). For the AS course you will carry out a practical investigation and a presentation. For the A2 course you will carry out a longer practical investigation and an in-depth study of an area of physics that you are interested in.

Preferred Entry Requirements

At least grade BB in GCSE Double Award Science, or C in GCSE Science: Physics and at least a grade B in GCSE Mathematics.

We will also consider other issues like your overall GCSE qualifications. We do not operate fixed rules so please feel free to discuss your particular circumstances with any of the physics staff.

We also recommend that you consider studying AS level Mathematics.