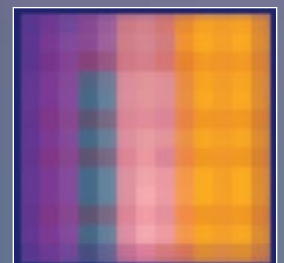


CASE STUDY

ADVANCING PHYSICS IN ACTION

RAISING THE GAME

Advancing Physics was developed by the Institute of Physics and OCR. It is generating a new interest in physics and helping to increase the number of students taking physics education post-16.



ADVANCING PHYSICS

AS Advancing Physics separates into three units; Physics in Action, Understanding Processes and Physics in Practice – the coursework unit. On successfully completing the AS Level students can then choose to progress to the second year to gain the full A Level.

St Vincent College

St Vincent College is the sixth form college serving Gosport and Fareham. It offers a wide range of courses for students aged 16 or above.

Advancing Physics and the Students

Advancing Physics has been enthusiastically adopted by the pupils at St Vincent College with 45 students completing the AS course and 33 continuing into the second year to study the full A Level. Students have remained eager to learn about 'real life' physics as their course investigates physics within the context of the modern world. For example, within Physics in Practice one St Vincent student researched 'Why guitar strings are made of steel'. It is clear why the students are finding the coursework an exciting challenge.

Advancing Physics widely encourages students to use their IT skills both through the student CD-ROM and by mastering PowerPoint for presentations. Phil Stubbles, Head of Physics at St Vincent College, has found that the coursework has been one of the most satisfying aspects of the course for the students. From a personal point of view he finds OCR's criteria for assessing the coursework tasks straightforward.

AS Advancing Physics is not solely coursework based. Both Physics in Action and Understanding Processes are examination based with an option to sit the exam in January or June. The exemplary results that St Vincent students achieved in January meant very few resits in June.

The structure of Advancing Physics, involving the mixture of coursework and examinations along with the emphasis on IT, has meant the course is ideally suited to students with wide

ranging abilities. Phil Stubbles has been largely impressed that: 'The most able were stretched and those with lower ability were able to appreciate the wonder of physics'.

The range of resources available in Advancing Physics includes explanatory and up-to-date textbooks, worksheets and student's CD-ROM allowing the students in St Vincent College to work with more independence than in previous courses and reach their potential. With 15 Grade A students, 12 Grade B, and seven Grade C students from last year's AS Advancing Physics, both staff and students in St Vincent are very enthusiastic about the course.

Students are reacting passionately to Advancing Physics. One St Vincent pupil has commented that: 'Last year I took five AS subjects and Physics was by far the most interesting. What I liked was the variety of things which we did, such as experiments, discussions and using computers. I also liked the way that the subject was related to things that I am interested in like mobile phones and CDs. Some of the ideas were fascinating, particularly the quantum effects. I gained an A at AS and am now continuing to A Level. Next year I am going to study Physics at university.'

A Staff Reaction

One of the most exciting benefits of the Advancing Physics course has been its amazing impact on teachers. At St Vincent College, staff have relished teaching the new course, viewing it both as challenging and refreshing. Not surprisingly the emphasis placed on

computers and technology throughout the course has had a dramatic effect, and the teacher CD-ROM that includes worked solutions to questions has been well received by the staff who appreciate the concise nature of the guide.

Through the Connecting Advancing Physics Teachers (CAPT) service, an email list that connects Advancing Physics teachers, staff at St Vincent are able to support each other through asking questions and answering queries from colleagues. Staff find it particularly reassuring to know that they can contact teachers all over the country to share best practice.

The early signs at St Vincent College are certainly encouraging. As well as students expanding their wealth of knowledge, staff at the College are also reaping the benefits of the new course. As Phil Stubbles has recalled: 'Through this course we have also developed our IT skills!'

Staff are undoubtedly benefiting from the support network of the CAPT service. The enthusiasm with which teachers in St Vincent College have approached the course has reflected upon the students who willingly offer positive feedback to their teachers about Advancing Physics.

For further information about OCR's Science provision, please contact our Information Bureau on 01223 553998, email them at helpdesk@ocr.org.uk or visit our website: www.ocr.org.uk