

Physics A-level summer school

Week of 17th - 21st July 2017, led by Trevor Plant

Venue: Building 32, University of Southampton, Highfield, so17 1BJ

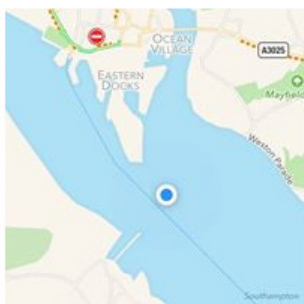
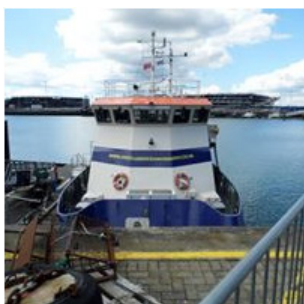


National College for
Teaching & Leadership

IOP Institute of Physics

This week-long course builds on the key stage 3 and 4 physics programme running at the Mathematics and Science Learning Centre, University of Southampton in collaboration with a range of partners including Ringwood School/Bransgore C.E. Primary School (SPELL - Southern Partnership for Excellence in Leadership and Learning TSA), The Portsmouth TSA, Queen Elizabeth's School, Wimborne and Arnewood School. Our physics programme is accredited through the IOP-enabled, community-approved process.

Includes '*Physics outside the classroom day*' aboard the Callista research vessel.

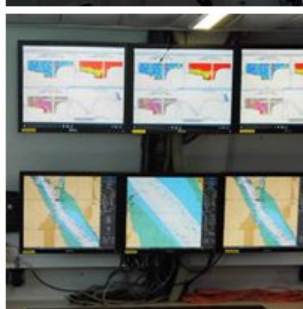
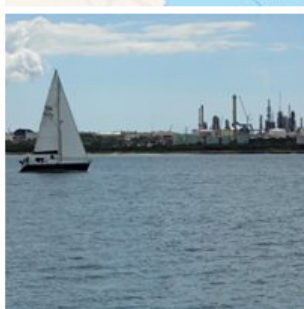


Fees

**Free to state schools
and colleges.**

£495 for 5 day programme
(independent schools)

Funded by the National
College for Teaching and
Leadership.



Tutor

Trevor Plant is an experienced coach and teacher educator who has worked for the Universities of Brighton, Portsmouth and Southampton with trainee and practising teachers. He coaches science teachers as part of the Institute of Physics *Stimulating Physics* programme and for two years was the manager of their *Capital Physics* project. This project uses coaching of A-level physics teachers in London schools to improve students' engagement, understanding and attainment. Trevor taught A-level physics for over 28 years.

This CPD has been organised through the Mathematics & Science Learning Centre. If you are interested in having CPD delivered directly in your school, please contact the Centre to discuss on 02380 598810 or email mslc@soton.ac.uk

Why choose our subject specialism summer school?

We have been running subject specialism programmes for over five years. We focus on subject knowledge, evidence-based pedagogies and effective learning through contextualised problem-solving. The course will extend participants' subject and pedagogical knowledge, giving them the expertise and confidence to move in to teaching A-level physics. Hands-on practical work and discussions of key ideas, practicals and challenges to be faced will feature during the week as well as the opportunity to try out your own micro investigation, and a day outside the laboratory looking at some physics you can encounter in different surroundings.



Requirements

In order to get the most from this course, you should have a secure foundation in teaching up to GCSE physics and be confident with your maths skills.

Course content

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| Mon 17th July | Discussion of A-level physics teaching and pre course task.
Concepts and equations - the BIG picture. Experiment - proportional reasoning.
Key practicals: energy and forces . |
| Tue 18th July | Teaching mathematical topics. Fermi questions. Key practicals: electricity, fields and waves . Students' misconceptions, how to reveal and correct them. |
| Wed 19th July | Open-ended challenges. Key practicals: radioactivity and quantum phenomena .
Particle physics activities. Micro-investigations begin. |
| Thu 20th July | ' <i>Physics outside the classroom day</i> ', including a trip on board Callista , at the National Oceanography Centre. |
| Fri 21st July | Micro-investigations concluded. Teaching styles and classroom organisation.
The gender issue, general discussion on the themes of the week. |

Application

Please email the Centre at mslc@soton.ac.uk with 'Booking for A level physics summer school' as your title.

We will contact you with further details on receipt of your application.
To receive details of similar provision from the Mathematics and Science Learning Centre, visit www.isurvey.soton.ac.uk/16464 and leave your details.