



香港資優教育學院 The Hong Kong Academy for Gifted Education

Multi-disciplinary Programme Harmonies In Nature : A Dialogue between Mathematics and Physics

(Date: 12/2/2011 to 16/4/2011)

Co-organizer: The University of Hong Kong,
Department of Mathematics and Department of Physics

The teaching of mathematics and physics in secondary schools is usually regarded as two separate subjects. However, such a practice deprives students of the opportunity to see how the two subjects are intimately interwoven.

The programme attempts to integrate the two subjects into a meaningful dialogue between mathematics and physics. The underlying theme would be the role and evolution of mathematics (mainly calculus, with related topics in linear algebra and geometry) in understanding the physical world, from the era of Issac Newton's mechanics to that of James Clerk Maxwell's electromagnetism and possibly beyond, to that of Albert Einstein's relativity. In other words it tries to tell the story of the triumph mathematics and physics won over together in the past four centuries.

The study of physics has brought about so many Mathematical concepts and applications that are applicable in Physics. These concepts, methods and applications will be developed through discussion, assignments and tutorials. Proactive and cooperative learning, rather than passive or competitive participation, is expected of the class.

Programme Details

Date	12 Feb – 16 Apr 2011 (10 sessions on Saturdays, except public holidays) 12/2, 19/2, 26/2, 5/3, 12/3, 19/3, 26/3, 2/4, 9/4, 16/4 ❖ <i>In case of cancellation of a session due to the hoisting of black rainstorm warning or No. 8 typhoon signal, the cancelled session will be rescheduled on Saturday, 30 April 2011.</i>
Time	9:30 am-12:30 pm
Venue	Elliot Hall Room 101 (EH101) The University of Hong Kong
Quota	50 student members. If oversubscribed, applicants would be admitted to the

	course on a first come, first served basis.
Language	Mostly Cantonese supplemented with English glossary
Target participants	<p>Priority will be given to those student members with the below qualifications. Applications from other interested student members with confidence in completing the course will be put on the waiting list.</p> <ol style="list-style-type: none"> 1. S.6 with at least 1 B in Physics and 1 B in Additional Maths in their HKCEE exam. Exceptional students in S4 or S5 may be considered.
Course requirement and merit	<p><u>Certificate of Completion</u> will be awarded to participants who are able to fulfill all the course requirements which include:</p> <ul style="list-style-type: none"> ❖ achieving an attendance of at least 8 sessions AND ❖ complete all the assignments with satisfactory performance
Course fee	Free of charge
Application procedure & deadline	❖ Complete the <u>online</u> application form on or before Monday, 31 January 2011
Address of the HKAGE:	<i>The Hong Kong Academy for Gifted Education</i> East Block, Kowloon Tong Education Services Centre, 19 Suffolk Road, Kowloon Tong, Hong Kong
Enquiry	For enquires, please contact Mr William Ng at 3698 3498.