



# Primary Online Programmes Outlines

## 小學網上課程大綱

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# Humanities

## E1ELL001O

Programme Title	Wait WHAT? English Idioms and Word Play (E1ELL001O)
Introduction	<p>It's a piece of cake! As you sow, so shall you reap. How much you know about idiom? The English language is full of idioms. Native speakers of English use idioms all the time. This means that communication with native speakers of English can be quite a confusing experience. In other words, selectly and actively learning idioms will be useful to you. Through three different online modules, you will learn what idiom is, the stories behind idioms and its usage in daily life.</p> <p><b>Module 1: What is an Idiom</b> Introduce you to idioms as a concept, clearly define idioms in relation to literary devices</p> <p><b>Module 2: Idioms and Culture</b> Help you look at idioms as cultural artifacts with stories behind them, and guide you to understand cultural shifts and international history through idioms</p> <p><b>Module 3: Idioms in Daily Life</b> Expose you to idioms in daily use e.g. in conversation, TV/film, art, etc.</p> <p>Equipped with these skills, you will be able to apply idioms in your English usage!</p>
Programme Type/level	Introductory Online Learning Programme ( <a href="#">Non Token-required</a> )
Target Participants	P4 to P6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	<p>Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"><li>1. Synthesize idioms in their English usage;</li><li>2. Explore colloquial expressions and their relationship to daily life;</li><li>3. Examine the origin of and the cultural influence on new vocabulary.</li></ol>
Duration	12 hours
Application	Click <a href="#">here</a> for application.

# Mathematics

## E1MAT007O

Programme Title	Algebra I 代數一(E1MAT007O)
Introduction	<p>Algebra is one of the major mathematical topics. Using innovative and interactive teaching materials, this online learning programme enables students to gain fundamental knowledge of algebra, such as the classification of numbers, the concepts of rate, ratio and errors.</p> <p><b>Module 1 : Rational and Irrational Numbers</b></p> <ul style="list-style-type: none"><li>• Study the concepts of rational and irrational numbers</li><li>• Distinguish whether a number is rational or irrational</li></ul> <p><b>Module 2 : Errors</b></p> <ul style="list-style-type: none"><li>• Recognise different kinds of errors</li><li>• Learn to calculate errors and understand the application of errors</li></ul> <p><b>Module 3 : Rate and Ratio</b></p> <ul style="list-style-type: none"><li>• Recognise the difference between rate and ratio</li><li>• Apply rate and ratio to suitable situations</li></ul> <p><b>Module 4 : Sequence</b></p> <ul style="list-style-type: none"><li>• Observe the general pattern of a sequence</li><li>• Handle simple application problem in sequence</li></ul>
Programme Type/level	Introductory Online Learning Programme ( <a href="#">Non Token-required</a> )
Target Participants	P4 to P6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	<p>Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"><li>1. Distinguish between rational and irrational numbers;</li><li>2. Evaluate the meaning and calculate different types of errors;</li><li>3. Generate the patterns of number sequence;</li><li>4. Manipulate algebraic expressions by using laws of indices.</li></ol>
Duration	15 hours
Application	Click <a href="#">here</a> for application.

# E1MAT008O

Programme Title	Algebra II 代數二(E1MAT008O)
Introduction	<p>Algebra is one of the major mathematical topics. Using innovative as well as interactive teaching materials, this online learning programme enables students to gain fundamental knowledge of algebra, such as factorization of simple polynomials, linear equations in two unknowns and identities</p> <p><b>Module 1 : Factorization</b></p> <ul style="list-style-type: none"> <li>• Understand factorization as a reverse process of expansion;</li> <li>• Factorize polynomials by taking out common factors and grouping of terms;</li> <li>• Factorize polynomials by using identities including difference of two squares, perfect square expressions;</li> <li>• Factorize polynomials by cross-method.</li> </ul> <p><b>Module 2 : Linear Equations in Two Unknowns</b></p> <ul style="list-style-type: none"> <li>• Formulate and solve simultaneous equations by algebraic methods;</li> <li>• Explore simultaneous equations that are inconsistent or that have no unique solution.</li> </ul> <p><b>Module 3 : Identities</b></p> <ul style="list-style-type: none"> <li>• Explore the meaning of identities and distinguish between equations and identities;</li> <li>• Discover and use the identities: difference of two squares.</li> </ul>
Programme Type/level	Introductory Online Learning Programme ( <a href="#">Non Token-required</a> )
Target Participants	P4 to P6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	<p>Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"> <li>1. Factorize polynomials by taking out common factors, grouping of terms, identities (including difference of two squares and perfect square expressions) and cross-method;</li> <li>2. Formulate and solve simultaneous equations by algebraic methods;</li> <li>3. Explore simultaneous equations that are inconsistent or that have no unique solution;</li> <li>4. Evaluate the meaning of identities and distinguish between equations and identities;</li> <li>5. Discover and use the identities: difference of two squares, the perfect square expression, difference and sum of two cubes.</li> </ol>
Duration	15 hours
Application	Click <a href="#">here</a> for application.

## E1MAT005O

Programme Title	Coordinate Geometry I 座標幾何 I (E1MAT005O)
Introduction	<p>Geometry and coordinate system, which solve many mathematical problems from different perspectives with different approaches, are major mathematical topics and relate closely to each other. Using innovative and interactive teaching materials, this online learning programme lets students learn about the properties of Cartesian coordinate system, polygons and polyhedrons so as to sharpen their geometrical problem solving skills, improve their spatial thinking ability and enhance their self-directed learning skills.</p> <p><b>Module 1: Coordinate Geometry</b></p> <ul style="list-style-type: none"> <li>• Study the concept of coordinate system</li> <li>• Learn to calculate the distance between two points on a horizontal line or a vertical line</li> </ul> <p><b>Module 2: Areas and Volumes</b></p> <ul style="list-style-type: none"> <li>• Learn to draw the cross-sections of simple solids</li> <li>• Explore the method of making models of polyhedrons</li> </ul> <p><b>Module 3: Applications of Areas and Volumes</b></p> <ul style="list-style-type: none"> <li>• Recognize different types of prisms, including cubes and cuboids</li> <li>• Understand and apply the formula for the total surface areas and volumes of prisms and pyramids</li> </ul> <p><b>Module 4: Applications of Coordinate Geometry</b></p> <ul style="list-style-type: none"> <li>• Explore the slopes of horizontal line and vertical line</li> <li>• Apply Mid-point Formula and Section Formula</li> </ul>
Programme Type/level	Introductory Online Learning Programme ( <a href="#">Non Token-required</a> )
Target Participants	P4 to P6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	<p>Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"> <li>1. Interpret the position and slope in Cartesian coordinate system.</li> <li>2. Derive perimeter, area and volume equations of different polygons and polyhedrons.</li> <li>3. Apply the properties of different polygons and polyhedrons to solve geometry problems.</li> <li>4. Use Cartesian coordinate system to solve 2D shape geometry problems.</li> </ol>
Duration	12 hours
Application	Click <a href="#">here</a> for application.

# Sciences

## E1PAL001O

(E1PAL001O medium of instruction is Chinese, for English version, please view E1PAL001O-2)

(E1PAL01O 的授課語言為中文，如欲報讀英文版，請查閱 E1PAL001O-2 之資訊。)

課程名稱	古生物學（第一級）
簡介	<p>我們四周多姿多彩、形形色色的各種生物究竟是從那裡而來及如何分類？這些都是古生物學的一部分，而化石更是古生物存在的證明，本課程中，我們將會學習到古生物與現今生物的關係及基本認識、化石是如何形成及保存類型、地質年代與古生物的關係、生命的起源及最早期的化石等，同時，亦會了解到化石相關的知識等，這些都對往後的發展建立了基礎。本課程共有五個章節：</p> <p>第一章：生物與古生物學的關係 第二章：化石的基本概念 第三章：地質年代 第四章：生命起源 第五章：化石發現</p>
課程類型／程度	網上學習課程（程度一）( <a href="#">非代幣課程</a> )
對象	小四至中六香港資優教育學苑學員
授課語言	中文
預期學習成果	<p>完成本資優課程後，資優生應能：</p> <ol style="list-style-type: none"><li>1. 認識生物的主要類型，並分辨古生物與現代生物；</li><li>2. 解釋化石的形成過程及其種類；</li><li>3. 描述地質年代的意義及各時期的重要古生物事件；</li><li>4. 概述地球構造、演化歷史及早期生命的起源；</li><li>5. 說明岩石種類與化石發現地點的關係、以及發現化石後的處理過程；</li><li>6. 培養進一步學習古生物學和相關學科的意願。</li></ol>
學習時數	18 小時
報名	<a href="#">按此</a> 報名

## E1PAL001O-2

(E1PAL001O-2 medium of instruction is English, for Chinese version, please view E1PAL001O)

(E1PAL001O-2 的授課語言為英文，如欲報讀中文版，請查閱 E1PAL001O 之資訊。)

Programme Title	Palaeontology (Level I) (E1PAL001O-2)
Introduction	<p>There are millions kinds of organisms living in this world. Have you ever wondered where they come from? Do you know how to classify them? Answers to these questions are all part of palaeontology, a historical science about ancient organisms and their evolution. Fossil study is one of the key components in palaeontology, because it proves that ancient lives really do exist. In this programme, we will learn about the relationship between ancient lives and today's organisms, the fundamentals of fossils, how they are formed and preserved, their geological times and what they tell us about the origin of life. Acquiring this basic knowledge can lead us into deeper studies about palaeontology as the course progresses. There are five chapter in this programme:</p> <p>Chapter 1: Relationship between Organisms and Palaeontology Chapter 2: Basic Concepts of Fossils Chapter 3: Geological Time Chapter 4: The Origin of Life Chapter 5: The Discovery of Fossils</p>
Programme Type/level	Online Learning Programme (Level I) ( <a href="#">Non-token-required</a> )
Target Participants	P4 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	<p>Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"><li>1. identify major types of organisms and distinguish between ancient and modern life;</li><li>2. explain fossil formation processes and different types of fossils;</li><li>3. describe geological time and key paleontological events in each era;</li><li>4. outline Earth's structure, history, and the origins of early life;</li><li>5. describe the relationship between rock types and fossil discovery locations, and the process of handling fossils after discovery;</li><li>6. foster a stronger desire to pursue further studies in palaeontology and related disciplines.</li></ol>
Duration	18 hours
Application	Click <a href="#">here</a> for application.

# E1PHY001O

Programme Title	Introduction to Physics 物理入門(E1PHY001O)
Introduction	<p>Mechanics, electricity and heat are the three major disciplines in physics. Many daily life examples can be explained from the knowledge in these areas. In this online programme, students learn about concepts such as Newton's Laws of Motion, circuit, electromagnetism and heat transfer in four modules. This programme provides students enough physics knowledge to enable them to further study other physics disciplines in the future.</p> <p><b>Module 1: Newton's Law of Motion 1</b></p> <ul style="list-style-type: none"> <li>• Examples of contact forces and non-contact forces</li> <li>• Idea of Newton's First Law of motion and its application</li> <li>• Properties of friction</li> </ul> <p><b>Module 2: Newton's Law of Motion 2</b></p> <ul style="list-style-type: none"> <li>• Idea of Newton's Second Law of motion and its application</li> <li>• Properties of gravity</li> <li>• Idea of Newton's Third Law of motion and its application</li> </ul> <p><b>Module 3: Electricity &amp; Magnetism</b></p> <ul style="list-style-type: none"> <li>• Open circuit and closed circuit</li> <li>• Simple circuit diagrams</li> <li>• Series circuit and parallel circuits</li> <li>• Relationship between electricity and magnetism, e.g. electromagnet</li> </ul> <p><b>Module 4: Heat</b></p> <ul style="list-style-type: none"> <li>• Heat and Energy</li> <li>• Conduction, convection and radiation</li> <li>• Daily life examples in heat transfer</li> </ul>
Programme Type/level	Introductory Online Learning Programme (Level 1) ( <a href="#">Non Token-required</a> )
Target Participants	P4 to P6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	<p>Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"> <li>1. Critically reflect the concepts in mechanics;</li> <li>2. Analyze electricity concepts via circuit investigation;</li> <li>3. Illustrate the relationship between electricity and magnetism;</li> <li>4. Compare different types of heat transfer.</li> </ol>
Duration	12 hours
Application	Click <a href="#">here</a> for application.