香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education

Secondary Online Programmes Outlines

中學網上課程大綱

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Humanities

E2PSY001O

Programme Title	Psychology – Classical Conditioning 心理學 – 古典制約(E2PSY001O)
Introduction	The programme aims to: ■ Provide students the general concepts of Classical Conditioning as one of the learning theories in Behaviorism; ■ Investigate the empirical studies of Classical Conditioning in understanding how human beings learn in the environment; ■ Explain and analyze human behaviours in daily life by applying the concepts of Classical Conditioning.
Programme Type/level	Introductory Online Learning Programme in Psychology (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Identify and define major concepts of Classical Conditioning in learning theories; 2. Apply theories and concepts of Classical Conditioning to daily life issues about learning; and 3. Critically evaluate the applicability of the concepts of Classical Conditioning in daily life learning and reflect behaviourism in learning theories.
Duration	12 hours
Application	Click here for application.

E2PSY002O

Programme Title	Psychology II – Operant Conditioning 心理學 II –操作式制約 (E2PSY002O)
Introduction	The programme aims to: ■ Provide students the general concepts of Operant Conditioning as one of the learning theories in Behaviorism; ■ Investigate the empirical studies of Operant Conditioning in understanding how human beings learn in the environment; ■ Explain and analyze human behaviours in daily life by applying the concepts of Operant Conditioning.
Programme Type/level	Introductory Online Learning Programme in Psychology (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Identify and define major concepts of Operant Conditioning in learning theories; 2. Apply theories and concepts of Operant Conditioning to daily life issues about learning; 3. Critically evaluate the applicability of the concepts of Operant Conditioning in daily life issues about learning and reflect behaviourism in learning theories.
Duration	12 hours
Application	Click here for application.

E1HUM003O

Programme Title	Social and Cognitive Learning in Psychology 認知與社會心理學 (E1HUM003O)
Introduction	Consider what happens if you learn to ice skate or any other new skills. Do you remember how you learned it? Perhaps ice skaters don't' have their knees bent, their body upright, and their head up reflexively under the influence of stimuli, as in classical conditioning…… Want to know more? Just click into our online programme Social and Cognitive Learning in Psychology to find out more.
Programme Type/level	Introductory Online Learning Programme in Psychology (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Be familiar with the key concepts of social and cognitive learning; 2. Comprehend how these key concepts help us to understand peoples' daily life issues; 3. Understand how human behaviour is affected by social and cognitive learning.
Duration	24 hours
Application	Click here for application.

E1PSY001O

Programme Title	Psychology: Mystery in Memory 心理學：記憶的奧秘(E1PSY001O)
Introduction	Previous research showed that around 5% of prisoners in the States were actually innocent. Some of these "offenders" were wrongfully convicted by the eyewitnesses during identification. How does our memory work? Does it actually work? There is no problem for us to remember our names, addresses and our mobile numbers. If our memory works fine, then why can't we remember the name of our first class teacher in the kindergarten? Why can't we remember what happened to us during our 4th birthday? Why can't we remember the content of the first assignment we had to complete? In this programme, you will have a chance to learn more about classic and current studies and theories of human memory as well as the application of memory to our daily life.
Programme Type/level	Introductory Online Learning Programme in Psychology (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Compare and contrast the classic and current issues of studying human memory; 2. Evaluate the structures and functions of different models of memory; and 3. Critically analyse how memory theories are related to real-life scenarios.
Duration	21 hours
Application	Click here for application.

E2HUM002O

Programme Title	Communication and New Media: From Now to Then 溝通與新媒體：今昔發展(E2HUM002O)
Introduction	The programme aims to: ■ Demonstrate that human interacts evolves rapidly due to the advancement of communication and computer technology; ■ Introduce background of media & technology development; ■ Make student members to understand how media & technology affect our daily lives by using different approaches and theories
Programme Type/level	Introductory Online Learning Programme in Humanities (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. State 3 ways of advanced computing technology that shape our ways of communication; 2. List the major modern media & technology that shape our ways of communication; and 3. Demonstrate their understanding on the social implication of the advancement of media and technology.
Duration	21 hours
Application	Click here for application.

Mathematics

E2MAT001O

Programme Title	Geometry I 幾何學 I (E2MAT001O)
Introduction	This online course will first discuss the origin of geometry including Babylonian, Egyptian, and Greek Geometry. Then, the most famous work on geometry, Euclid's Elements, will be introduced. An introduction of the axiomatic system and numerous basic geometric constructions will be discussed.
Programme Type/level	Intermediate Online Learning Programme in Mathematics (Level 1) (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Understand the origin of geometry 2. Demonstrate the understanding of the axiomatic system introduced in Euclidean geometry 3. Perform some basic compass-and-straight edge constructions
Duration	12 hours
Application	Click here for application.

E2MAT002O

Programme Title	Geometry II 幾何學 II (E2MAT002O)
Introduction	This online course extends the discussion in "Geometry I" with more geometric problems of antiquity. The focus is on the constructibility of numbers and regular polygons, as well as the three classical problems in Greek mathematics.
Programme Type/level	Intermediate Online Learning Programme in Mathematics (Level 2) (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Demonstrate their understanding of the concept of constructibility of numbers and polygons; 2. Recall some classical geometric construction problems such as the three classical problems; and 3. Apply Gauss' theory to determine the constructibility of regular polygons.
Duration	12 hours
Application	Click here for application.

E2MAT003O

Programme Title	Complex Number and Geometry I 複數及幾何學 I (E2MAT003O)
Introduction	The course introduces the basic concept of complex numbers and complex plane. It covers the prerequisite knowledge of complex number, include coordinate geometry and trigonometry. It introduces the polar form, De Movire's Theorem and the nth root of unity.
Programme Type/level	Advanced Online Learning Programme in Mathematics (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Demonstrate their understanding of the basic concept of complex numbers; 2. Apply their knowledge of complex number in complex plane; and 3. Solve problems involving De Movire's Theorem and nth root of unity.
Duration	18 hours
Application	Click here for application.

E1MAT006O

Programme Title	Coordinate Geometry II 座標幾何 II (E1MAT006O)
Introduction	Geometry and coordinate system, which solve many mathematical problems from different perspectives with different approaches, are major mathematical topics. This online learning programme lets students learn about the properties of Cartesian coordinate system, in order to sharpen their geometrical problem solving skills, improve their spatial thinking ability and enhance their self-directed learning skills. Online components: Module 1 – Equations of straight lines (I) Module 2 – Equations of straight lines (II) Module 3 – Locus Module 4 – Equations of circles (I) Module 5 – Equations of circles (II) Module 6 – Conic sections
Programme Type/level	Introductory Online Learning Programme in Mathematics (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. describe and analyze geometric objects using coordinate system 2. analyze lines and circles by using algebraic tools 3. synthesize and create related concepts using coordinate geometry
Duration	18 hours
Application	Click here 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	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： 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
課程類型／程度	網上學習課程（程度一）(非代幣課程)
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	完成本資優課程後，資優生應能： 1. 認識生物的主要類型，並分辨古生物與現代生物； 2. 解釋化石的形成過程及其種類； 3. 描述地質年代的意義及各時期的重要古生物事件； 4. 概述地球構造、演化歷史及早期生命的起源； 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； 6. 培養進一步學習古生物學和相關學科的意願。
學習時數	18 小時
報名	按此報名

E1PAL001O-2

(E1PAL001O-2 medium of instruction is English, for Chinese version, please view E1PAL001O)
（E1PAL01O-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	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: 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
Programme Type/level	Online Learning Programme (Level I) (Non-token-required)
Target Participants	P4 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. identify major types of organisms and distinguish between ancient and modern life; 2. explain fossil formation processes and different types of fossils; 3. describe geological time and key paleontological events in each era; 4. outline Earth's structure, history, and the origins of early life; 5. describe the relationship between rock types and fossil discovery locations, and the process of handling fossils after discovery; 6. foster a stronger desire to pursue further studies in palaeontology and related disciplines.
Duration	18 hours
Application	Click here for application.

E2CHE002O

Programme Title	Chem Is Try「化」觀察為「學」問(E2CHE002O)
Introduction	After learning the steps of doing scientific inquiry in this online learning programme, you will be well prepared for another online learning programme, Introduction to analytical Chemistry and Quantitative Analysis (SCIO3122) The programme aims to: ■ Stimulate student members to think about what science is logically and its limitation; ■ Deepen the concept of the nature of science in Chemistry-related contexts; ■ Develop student members' ability to make scientific inquiries, think scientifically, critically and creatively.
Programme Type/level	Advanced Online Learning Programme in Chemistry (Level 3) (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Be familiar with the steps of discovering new knowledge in Chemistry through Scientific Inquiry (SI): Make careful observation, ask relevant questions, identify problems, formulate hypothesis for investigation, design experiments and draw conclusion from experimental results; 2. Develop scientific literacy after understanding the true meaning of scientific terms (e.g. observation, inference, hypothesis, theory and law in scientific report); and 3. Understand the difficulties faced by chemists and challenges come from professional scholars / the society when carrying out SI.
Duration	15 hours
Application	Click here for application.

E2CHE003O

Programme Title	Introduction to Analytical Chemistry and Quantitative Analysis 化驗與數量化分析(E2CHE003O)
Introduction	This online learning programme is a tailor-made teaching workshop consisting of reading materials, self-exploration interactive exercises and tests related to analytical chemistry. The programme aims to: ■ Develop student members' analytical concepts and skills by introducing basic principles of chemical analysis; ■ Illustrate classical and instrumental analysis as well as their strengths and limitation(s); ■ Introduce the basic principles of modern analytical instruments; and ■ Demonstrate some current analytical tests related to our daily life so as to arouse student members' interest in analytical chemistry.
Programme Type/level	Advanced Online Learning Programme in Chemistry (Level 4) (Non Token-required)
Target Participants	S1 to S6 HKAGE student members
Medium of Instruction	English
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. Understand the fundamentals of calibration and standardization procedures in analytical chemistry; 2. Be familiar with the logic behind analytical sampling, sample preparation and experimental design; 3. Improve their information processing skills by learning the following topics: Quality assurance, data interpretation and method validation; and 4. Accelerate learning in chemistry by acquiring the knowledge of basic principles of modern analytical instruments
Duration	18 hours
Application	Click here for application.