



Introductory Course in Cryptology

(TECP1312)

<p>Introduction</p>	<p>Our modern day societies are constructed based on security. Security gives us a sense of ownership.</p> <p>From the ancient tangible lock or bar to close the door, to digital password of bank accounts in the cyber age, security tools and applications are everywhere.</p> <p>One major form of security is digital security. Digital security is built on cryptology.</p> <p>In this course, we will learn how to construct encryption and decryption tools such as the Caesar Cipher of the Roman Empire in the ancient world, the Enigma machine of the German army in the Second World War, as well as the symmetric key and asymmetric keys in this digital age.</p> <p>We will learn the mathematical theories of them and how to use coding to simulate them. We will also create a communication App with cryptology for you to talk secrets with friends.</p> <p>Finally we will introduce methods to show how to hack them through intelligent ways.</p>
<p>Programme Type / Level</p>	<p>Cryptology course (Level 1) (Token-required)</p>
<p>Instructor(s)</p>	<p>Mr. LAU Kam Ming (Smart Kiddo Education Limited)</p>
<p>Pre-requisite</p>	<p>No special prerequisites are needed</p>
<p>Target Participants</p>	<p>➤ P4 to P6 HKAGE student members only in 2019-20 school year ➤ Class size: 30</p>
<p>Medium of Instruction</p>	<p>English with English handouts</p>
<p>Certificate</p>	<p>E-Certificate will be awarded to participants who have:</p> <ul style="list-style-type: none"> ❖ Attended at least 3 sessions; AND ❖ Completed all the assignments with satisfactory performance
<p>Intended Learning Outcomes</p>	<p>Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"> 1. describe what cryptology is by explaining a few cryptology devices, their theories and ways of cracking them; 2. critically evaluate the structure of cryptology devices with mathematics, science or engineering theories; 3. compare different ways of encryptions, their techniques and the operation mechanism; 4. create a few cryptology devices in software coding.

Application Procedure



This programme is Programmes with No Screening

There are no screening questions, written test or other screening methods for this type of programmes.

- Student members can select up to 5 programmes from a list of selection. Applicants have to state the priority when submitting the application. (1st priority, 2nd priority, 3rd priority, etc). 1 token is required for each programme (For programme list, please refer to the issue 18 of Gifted Gateway ([click here](#)));
- Application can only be submitted once. Once it is submitted, the priority and the programme selection cannot be changed;
- If a student member removes a programme from the application before the application deadline by withdrawal, the choice priority will remain unchanged. (For example: A student has selected three programmes and removed the programme with the 1st priority from the application. The choices of 2nd and 3rd priority will remain unchanged with no promotion in priority.);
- We will select the students based on the student's choice of priorities and a randomly generated selection by the computer system. If there is time clash between the applied programme and other programmes with offer, HKAGE will consider if the application will be accepted;
- Priority will be given to student members who have not completed the applied programmes;
- Student members should avoid applying programmes with time clash;
- The decision of HKAGE on the result of selection should be final.

Application Deadline **23 Apr 2020, 12:00 n.n.**

Application Result
Release Date

29 Apr 2020

If student members withdraw from the programme after the Application Deadline, the token will be deducted.

Schedule



Session	Date	Time	Venue
1	24 Aug	9:00 a.m. – 12:00 n.n. & 1:00 p.m. – 4:00 p.m.	Room 105 Zoom Meeting
2			
3	26 Aug		
4			

Enquiries



For enquiries, please contact us at 3940 0101 after language selection, press "1".