



Introductory Course in Cryptology

(E1FIN001C)

Introduction	<p>Our modern day societies are constructed based on security. Security provides us 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 that Caesar Cipher of Roman Empire in ancient world, Enigma machine of German army in the Second World War, to symmetric key and asymmetric keys in our digital age.</p> <p>We will learn the mathematical theories of them. How to use coding to simulate them. We will create 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>This programme is the same as Cryptology Course (Level I): Introductory Course in Cryptology (TECP1312) in 2019/20 school year.</p>
Programme Type / Level	Cryptology course (Level I) (Token-required)
Instructor(s)	Mr. LAU Kam Ming (Smart Kiddo Education Limited)
Pre-requisite	No special prerequisites are needed
Target Participants	<ul style="list-style-type: none">➤ P4 to P6 HKAGE student members only in 2020-21 school year➤ Class size: 30 <p>This programme is same as Cryptology course (Level 1): Introductory Course in Cryptology (TECP1312) in 19/20 school year.</p>
Medium of Instruction	English with English handouts
Certificate	<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
Intended Learning Outcomes	<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 crypto devices with mathematics, science or engineering theories;3. compare different ways of encryptions, their techniques and the operation mechanisms;4. create a few crypto 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 22 of Gifted Gateway ([click here](#)));
- The application can only be submitted once. After submission of the application, the programme selection and the priority 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;
- 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 2021, 12:00 n.n.**

Application Result
Release Date

30 Apr 2021

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

Schedule

Session	Date	Time	Venue
1	24 Jul	9:30 a.m. – 12:30 p.m. & 2:00 p.m. – 5:00 p.m.	Zoom meeting
2			
3	31 Jul		
4			

Enquiries

For enquiries, please contact Academic Programme Development Division on 3940 0101
After language selection, press "1".