








International Physics Tournament Training (Safe Cracking) Phase I (SCIS3011)

<p>Introduction</p>	<p>This course aims to provide experimental physics training and apply physics principles to develop a locking mechanism (Safe) for the “Safe Cracking” International Physics Tournament (IPT). The safe development may involve Apps development (App Inventor), microcontroller interfacing and programming, concepts of analog and digital data, relay controls, applications of sensors, data measurements, mechanical drawing using 3D printer, and electronics with circuit board development. Training to break in other teams’ safe will also be provided. To strengthen the above experimental skills, theoretical physics training may also be given.</p>
<p>Programme Type / Level</p>	<p>Advanced Course in Physics (Token-required)</p>
<p>Instructor(s)</p>	<p>Dr Chan Mau Hing (Lecturer, The Department of Physics, Hong Kong Baptist University)</p>
<p>Pre-requisite</p>	<p>No special prerequisites are needed, but preferably has talent in development skills in physics experimental setup, experience in conducting experimental physics, and good communication and presentation skills in English.</p>
<p>Target Participants</p>	<p> <ul style="list-style-type: none"> ➤ S3 to S5 HKAGE student members in 2019/20 school year only ➤ Class size: 10 </p>
<p>Medium of Instruction</p>	<p> English (supplemented with Cantonese) 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> <p> <ol style="list-style-type: none"> 1. understand the syllabus of IPT; 2. develop a safe for the competition of IPT; 3. apply physics concept to design a locking mechanism for building a safe; 4. apply physics knowledge to break in other teams’ safe in IPT; and 5. develop team spirit and apply their collaborative skills in designing and developing a safe, and in breaking in other teams’ safe. </p>
<p>Screening</p>	<p> Please answer the screening question in the online application form. *The screening question is designed to help the applicant understands the course level and the course content. The question must be answered by the student applicant and it can only be attempted once. The answer cannot be changed once the application is submitted. Selection is based on students’ performance in answering the question. Only students who can demonstrate motivation and the basic knowledge of Physics in the screening question can be enrolled in the programme.</p>
<p>Application Deadline</p>	<p>6 Jul 2020, 12:00 n.n.</p> <p style="text-align: right;">Application Result Release Date 14 Jul 2020</p> <p>Student members may withdraw from the programme on or before the deadline. Otherwise, the token will be deducted.</p>

Schedule



Session	Date	Time	Venue
1	25 Jul	9:30 a.m. - 12:30 p.m.	QEE802 (Lab), Oen Hall Building, Ho Sin Hang Campus, Hong Kong Baptist University¹ Online Lecture
2		1:30 p.m. - 4:30 p.m.	
3	15 Aug	9:30 a.m. - 12:30 p.m.	
4		1:30 p.m. - 4:30 p.m.	

¹ Address: Kowloon Tong, Kowloon, Hong Kong ([Map](#))

Remarks:

- Phase I students must attend the selection test at 1:30 p.m. - 4:30 p.m. on 15 Aug for selection to join Phase II training. Zero mark will be given for those who are absent from the selection test.
- Promotion to Phase II: The 5 best-performing students in Phase I selection test will be selected to join Phase II training (around Sep 2020 - Feb 2021) and 1-week IPT in Israel (around Mar - Apr 2021). For details, please visit the official website of IPT: <https://davidson.weizmann.ac.il/en/programs/cracking>. Furthermore, you can watch the video of IPT 2019 via the following link for more information: <https://youtu.be/SAI0heCjZgQ>.
- Tentative arrangement for Phase II training is 10 sessions on: 19 Sep 2020, 17 Oct 2020, 21 Nov 2020, 9 Jan 2021, 20 Feb 2021; at 9:30 a.m. - 12:30 p.m. and 1:30 p.m. - 4:30 p.m.

Sample Note

Assessments of the Shalheveth Freier International Physics Tournament

- Interview with our Team by the Referees (45%)
Give explanations of physics concepts and demonstrate operation principles of our Safe.
- Assessment by peer groups, or the burglars (20%)
Needs to have good social communication and presentation skills.
- Number of successful break-ins into other teams' Safes (25%)
Needs physics concepts and excellent experimental skill to break in other teams' Safe.
- Number of incidents that our Safe withheld a break-in by other Teams (10%)



Enquiries



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