



# Building Arduino Surveillance Cart

(TECP1443)

<p><b>Introduction</b></p>	<p>This is an integrated STEM learning experience. Students will learn to build a Surveillance Cart using Arduino-compatible WiFi board.</p> <p>The robot cart is equipped with a camera at the front to observe the environment and is driven by two continuous servo motors.</p> <p>This type of motor needs more advanced control than the typical DC motors.</p>
<p><b>Programme Type / Level</b></p>	<p>Computer Programming Course (Level 1) (<a href="#">Token-required</a>)</p>
<p><b>Instructor(s)</b></p>	<p>Mr. LAU Kam Ming (Smart Kiddo Education Limited)</p>
<p><b>Pre-requisite</b></p>	<p>No special prerequisites are needed</p>
<p><b>Target Participants</b></p>	<p>➤ P4 to P6 HKAGE student members only in 2019-20 school year ➤ Class size: 30</p>
<p><b>Medium of Instruction</b></p>	<p>English with English handouts</p>
<p><b>Certificate</b></p>	<p><b>E-Certificate</b> will be awarded to participants who have:</p> <ul style="list-style-type: none"> <li>❖ Attended <b>at least 3 sessions</b>; <b>AND</b></li> <li>❖ Completed all the assignments with <b>satisfactory performance</b></li> </ul>
<p><b>Intended Learning Outcomes</b></p>	<p>Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"> <li>1. build mechanical structure using tools in proper way;</li> <li>2. integrate electronics to mechanical structure;</li> <li>3. use coding to modify structure movement;</li> <li>4. make practical use of IoT in daily situations.</li> </ol>
<p><b>Application Procedure</b></p>	<p><b><u>This programme is Programmes with No Screening</u></b></p> <p>There are no screening questions, written test or other screening methods for this type of programmes.</p> <ul style="list-style-type: none"> <li>● Student members can select up to 5 programmes from a list of selection. Applicants have to state the priority when submitting the application. (1<sup>st</sup> priority, 2<sup>nd</sup> priority, 3<sup>rd</sup> priority, etc). 1 token is required for each programme (For programme list, please refer to the issue 18 of Gifted Gateway (<a href="#">click here</a>));</li> <li>● Application can only be submitted once. Once it is submitted, the priority and the programme selection cannot be changed;</li> <li>● 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 1<sup>st</sup> priority from the application. The choices of 2<sup>nd</sup> and 3<sup>rd</sup> priority will remain unchanged with no promotion in priority.);</li> <li>● 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;</li> <li>● Priority will be given to student members who have not completed the applied programmes;</li> <li>● Student members should avoid applying programmes with time clash;</li> <li>● The decision of HKAGE on the result of selection should be final.</li> </ul>

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 (HKAGE)
1	17-Aug		
2	Cancelled	<del>9:00 a.m.—12:00 n.n.</del>	Room 105
3	19-Aug	<del>1:00 p.m.—4:00 p.m.</del>	
4	Cancelled		

Remarks: Students can bring your own notebook with "Arduino IDE" installed. (iOS or Android tablet were not accepted)

Arduino IDE: <https://www.arduino.cc/en/Main/Software>

### Enquiries



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

SCIENCES

科學