Translated version

Technology Education Key Learning Area (S1 - S3) Curriculum Framework of National Security Education

1. General teaching foci

1.1 The knowledge contexts of Technology Education (TE) curriculum include Technology and Society, Safety and Health, Information Processing and Presentation, Strategies and Management, etc. Through this curriculum, students will understand issues related to the use and development of technologies, including the awareness of possible security threats on the Internet, understanding and applying safety precautions and regulations in handling tools, equipment and resources in technological process, so that they can recognise the importance of cyber security and technological security.

1.2 A broad and balanced TE curriculum nurtures students' capability for understanding various technologies, raises their awareness of the impact of technology on our daily life, and provides opportunities for students to develop creativity, problem solving and critical thinking skills in authentic contexts. The core learning elements of the curriculum, such as "(K5) Tools and Equipment" and "(K6) Production Process", help students learn to use various tools safely and properly, manipulate the tools and equipment in various production processes, develop the awareness of using technologies in a positive and proper manner, and learn the knowledge, skills and attitudes required for becoming technology talents, and put technological security to practice. "(K16) Information Processing and Presentation" enables students to learn information processing and presentation, know the need and methods for the safe use of the Internet, and in turn to become responsible netizens, as well as enhance students' awareness of cyber security.

1.3 Through the related topics in the curriculum, learning and teaching activities or technology-related issues, students' generic skills would be developed. They would also be guided to understand the situation from multiple perspectives, make analysis in a rational and objective manner, and adopt positive values and attitudes as the guiding principles to make judgements and decisions, thereby nurturing their sense of responsibility, commitment, etc.

Translated version

2. Learning foci

Technology Education Key Learning Area (S1 - S3)		Curriculum Framework of National Security Education in Hong Kong	
Learning Elements	**Learning Foci**	**Strand**	**Learning Elements**
Knowledge Contexts ● Operations & Manufacturing (K5) Tools and Equipment (K6) Production Process	● Safety measures (i.e. safety, rules and regulation, and code of practice) within the working environment ● Safe use of tools and equipment ● The value of intellectual property and possible ways of protection ● Selection of the appropriate hand tools, machines and equipment for use with a variety of materials and a range of technological components in a safe and correct manner ➢ When studying topics related to "Tools and Equipment" and "Production Process" through lessons and model making activities, students learn to use tools and equipment safely, understand the constraints and considerations in the process of design, production and sales of product, and the need to ensure that the processes comply with the law, ethics and safety requirements. By doing so, they will understand the importance of technological security, as well as the danger of misuse of technologies that may bring negative impact on the nation and society. All these are the knowledge, skills and attitudes required for the technology talents.	7	● Understand the impact of scientific and technological development on social culture, and the safety measures when applying science and technology
● Information and communication	● For information processing and information processing tools, search and download useful information through the Internet by	7	● When receiving, compiling or forwarding information through different channels,

Technology Education Key Learning Area (S1 - S3)		Curriculum Framework of National Security Education in Hong Kong	
Learning Elements	**Learning Foci**	**Strand**	**Learning Elements**
technology (K16) Information Processing and Presentation	choosing different search engines for different purposes ● Skills in searching for specific information, and the use of advanced search features to refine the search results ● The need of safe web browsing and related good practices ● Social tools to facilitate discussion or exchange of ideas ● From the users' perspective, understand the possible security threats on the Internet ● Discuss the possible privacy threats on the Internet, and suggest ways to maintain privacy ➢ When studying topics related to information processing and Internet application under the junior secondary ICT, students understand the importance of the proper use of the Internet to the normal operation of society, and the close relationship between the normal functioning of the Internet and the orderly operation of society, such as online shopping and financial services. Students will understand the impact of various cybercrimes and the misuse of the Internet on the public. ➢ In addition to avoiding students falling victim to the Internet world, it is also necessary to increase their vigilance against threats including hidden dangers in the network infrastructure and cybercrimes, so that they can become responsible netizens to further enhance cyber security.		exercise critical thinking and be able to interpret media information rationally, impartially and from different perspectives

3. Suggested learning and teaching activities (examples)

✧ **Case study/project learning**

- Analysis and discussion of cases –【Authenticity of Information on the Internet】
  Teachers may discuss with students about the video of the educational multimedia – authenticity of information on the Internet (https://emm.edcity.hk/media/網絡資訊真定假%20/0_5phklcjn/187438543), reflect on the proper and improper acts of the persons shown in the video, and let students aware of the possible serious consequences of spreading rumours on the Internet. Teachers may also ask students to complete the worksheet provided.
- Project learning –【Design and Manufacturing】
  Teachers may use real-life examples as an introduction (e.g. when choosing to buy and using an electric appliance, read the instruction manual carefully to understand how to use it and whether it complies with relevant product standards/legal requirements, so as to use and maintain the product properly) and arrange the project learning on "Design and Manufacture a Product (e.g., a toy for children)" to enable students to consider from multiple perspectives (e.g., whether the chosen materials are toxic/passed relevant tests; whether the process of production complies with environmental standards), so as to understand the importance of the application of technologies to the daily life and the potential dangers, and the importance of compliance with the procedures and standards of related professional fields by technology/technical personnel.

✧ **Cross-curricular collaboration – 【technologies to protect and manage digital music copyright】**

- In collaboration with the panel of Music to organise thematic week or related learning activities, teachers may guide students to collect information from newspapers, the Internet or social media about the technologies to protect and manage digital music copyright, including access control adopted by publishers and copyright owners to restrict the use of digital media or devices, and discuss and share with peers. These activities enable students to apply relevant concepts and knowledge, information and technologies, and share digital music information in a responsible manner.

✧ **Safe use of tools and equipment**

- By teaching students the use of appropriate tools and equipment safely, enhance their safety knowledge and skills when conducting technological activities.
  (Reference URL: Learning Element Modules Related to Technological Subjects, Core Part (Combination A)
  Secondary 1: https://www.edb.gov.hk/en/curriculum-development/kla/technology-edu/resources/tech-subjects/S1%20Teaching%20Plan.html
  Secondary 2: https://www.edb.gov.hk/en/curriculum-development/kla/technology-edu/resources/tech-subjects/S2%20Teaching%20Plan.html

Secondary 3: https://www.edb.gov.hk/en/curriculum-development/kla/technology-edu/resources/tech-subjects/S3_Teaching_Plan.html)

✧ **Exploration on technologies**

- Organise thematic week or related learning activities for students to understand the information and cyber security efforts of the Hong Kong Special Administrative Region Government.
  (Reference URL: "Government Computer Emergency Response Team Hong Kong (GovCERT.HK)"
  https://www.govcert.gov.hk/en/index.html)

✧ Design appropriate self-learning activities in line with the curriculum aims and objectives to help students understand the concern of other countries and the importance they have attached to science and technological security issues.