Applied Learning (Senior Secondary Level)

2020-22 Cohort

Item	Description
1. Subject Title	Computer Forensic Technology
2. Course Provider	School of Professional and Continuing Education, The University of Hong Kong
3. Area of Studies/ Course Cluster	Engineering and Production/Information Engineering
4. Medium of Instruction	Chinese or English
5. Learning Outcomes	Upon completion of the subject, students should be able to: (1) describe the need, principles, roles, and requirements of computer forensics; (2) describe individual stages of computer forensics process; (3) explain the roles and importance of digital evidence in computer incident response; (4) apply the procedures in collecting and preserving digital evidence by computer forensics technology; (5) describe the social and ethical issues in computer forensics; (6) demonstrate communication, collaboration and interpersonal skills in the field of computer forensics; and (7) develop self-understanding for further studies and career development in the related field.

6. Curriculum Map – Organisation and Structure

Module 1 - Introduction to Computer Forensics (30 hours)

- Needs and Principles of Computer Forensics

- Common Computer Components and Architectures

- Function and Importance of Digital Evidence

- Roles of Computer Forensics

Module 2 – Computer Forensics Tools and Applications (60 hours)

- Introduction to Digital Evidence

- Introduction to Data Acquisition

- Introduction to Computer Security

- Capturing Digital Data

Module 3 – Digital Evidence Handling (60 hours)

- Digital Evidence Management and Preservation

- Digital Evidence Presentation

- Simulated Computer Forensic Cases

Module 4 – Social and Ethical Issues in Computer Forensics (30 hours)

- Social Issues and Threats in Cyberspace

- Code of Ethics and Professional Responsibility

- Future Trends and Emerging Issues

7. The Context

- The information on possible study and career pathways is provided to enhance students' understanding of the wider context of the specific Applied Learning course. Students who have successfully completed Applied Learning courses have to meet other entry requirements as specified by the institutions.
- The recognition of Applied Learning courses for admission to further studies and career opportunities is at the discretion of relevant institutions. The Education Bureau and the course providers of Applied Learning are exploring and seeking recognition related to further education and career development opportunities for students successfully completing the Applied Learning courses.

Possible further study and career pathways

Further studies
- e.g. Information Technology, Computer Science

Career development
- To monitor and protect the computer network, e.g. junior network administrator
- To recover the data in computer, e.g. data recovery specialist

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Relations with core subjects and other elective subjects

Enhancing and enriching, e.g.
- enhancement of students' learning in **Mathematics** through solving encrypted digital data related problems and apply to experimental practices
- enhancement of students' learning in **Liberal Studies** by enriching their knowledge about the latest development of computer forensic technology and related ethical issues

Cross-fertilisation, e.g.
- the application of knowledge and skills learnt in **Information and Communication Technology** enhances the learning in both subjects

Expanding horizons, e.g.
- students taking **Personal, Social and Humanities Education** subjects can broaden their knowledge in information technology and engineering

Consolidating and synergising students' studies, e.g.
- students undertake a practical learning programme in computer forensics to integrate their IT knowledge and skills acquired

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Cluster of professions/trades/industries related to the course

- e.g. Information Technology, Computer Science

Future global and local outlook

- the rapid expansion of the use of digital technology has been followed by a similar increase in computer crime. This increase has led to the demand on computer forensics specialists. Many large commercial organisations aware that their computers hold important information that could be exploited in potential workplace incidents
- computer forensics is the process of identifying, preserving, analysing, and presenting digital evidence in a proper proceeding. Evidence might be sought in a wide range of computer misuse, including but not limited to access company secrets, data destruction, and frauds

Beginners' skill set to facilitate entry to further studies and/or work

- basic knowledge of the computer forensics technology
- understand the importance, procedures and policies in handling digital data/evidence in fair and just manner
- knowledge and skill in retrieving and preserving digital data/evidence
- demonstrate reflective thinking skills and make informed discussion about technological issues
- aware of social and ethical implications of computer forensic technology

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Relations with other areas of studies/ courses of Applied Learning

Business, Management and Law
- enhance students' understanding of the social and ethical issues in the technological world

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Foundation knowledge developed in junior secondary education and Secondary 4

The subject is built upon the foundation knowledge students acquired in, e.g.
- **Chinese Language Education** and **English Language Education** – verbal and written communication
- **Mathematics Education** – data handling and calculation
- **Technology Education** – use of information technology
- **Science Education** – importance of evidence in forming conclusions