

Annex 11

The Requirements of Basic Academic Attainments for Junior Secondary Information Technology

I. Basic rationale

Nowadays, information technology is used anywhere and anytime in human life, such as learning, working and social communication; it has become an important factor affecting human life in the ways of production, lifestyles and ways of thinking. It is the basic literacy of the citizens nowadays to equip themselves with certain basic knowledge and skills of information technology, to cultivate good information technology application ability and attitude, to actively use diverse information technology to carry out independent learning and lifelong learning. Therefore, the main objectives and important mission of the curriculum are to meet the junior secondary students' learning needs for information technology, to develop students' information literacy and technological capacity, to promote their personality and social development and to elevate their lifelong learning ability and quality of life. On these grounds, the Requirements of Basic Academic Attainments for Junior Secondary Information Technology should comply with the following fundamental principles:

1. Attaching importance to improving students' information literacy and developing their technological capacity, promoting students to better integrate into the information society.

This curriculum should base on the current situation and trend of information technology development in Macao, and start from the characteristics of junior secondary students' physical and mental development. Through such learning activities of information acquisition, transmission, processing, expression, sharing and management, the curriculum should expand students' knowledge and skills in information technology, deepen their understanding of information technology features and influences; cultivate their acute consciousness towards information, sense of responsibility, legal awareness and the proper attitude of using information technology; develop their ability in using information technology appropriately, efficiently and safely so as to improve students' adaptability to and participation in the information society.

2. Advocating diverse information technology learning approaches; promoting

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students' individualised development.

The curriculum should attach importance to students' daily life and existing learning experiences. Through diverse learning methods, such as project promotion, operation exercises, self-exploration, collaborative design, hands-on experiments, cross-disciplinary integration etc., and in the process of general use of software and hardware, the openness of learning information technology should be strengthened to enhance the diversity of students' learning experiences, improve the learning effectiveness and promote their individualised development.

3. Developing students' ability of making good use of information technology in daily life; enhancing their lifelong learning ability and quality of life.

Information technology is the object of learning for junior secondary students; it is also their learning tool. It guides students to start from the problems in everyday life, make use of the tools of information technology to analyse and solve problems, deepen students' awareness of the effect of information technology on lifelong learning as well as the understanding of both its positive and negative impacts on their daily life, develop students' critical thinking and creative ability, promote the transformation of ability, allow information technology to become a good companion of students for improving their lifelong learning and quality of life.

II. Curriculum Goals

1. Associating the experience of daily use of information technology, grasp the basic knowledge of information technology, such as concepts related to information, communication and information technology, the main characteristics, the basic principles and the application methods.
2. In such information technology activities as projects, tasks, experiments and designs, cultivate students' basic skills in using information technological software and hardware for information acquisition, transmission, processing, application and management in an appropriate manner.
3. In the face of the problems in daily life and learning, develop students' ability to make integrated use of information technology tools to analyse and effectively solve such problems.
4. Through peer discussions and self-reflection, guide students to develop critical thinking, diverse imagination, logical thinking and creative thinking based on information technology,
5. Guide students to conduct cross-disciplinary learning through the diverse ways of learning information technology; deepen their emotional experiences, such as communication and cooperation, exploration and creation, caring and sharing,

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respect and tolerance to enhance their learning effectiveness.

6. Develop students' good attitude of using information technology actively and prudently as well as the habit and behaviour of using information technology healthily, and make good use of information technology to improve the quality of life.
7. Guide students to participate in activities of the information society; cultivate their information awareness and related legal consciousness and responsibility consciousness.
8. Guide students to experience the new development of information technology, and to be deeply concerned about the positive and negative impact of information technology development on the international society and the life in Macau, forming positive values towards information technology.

III. The Requirements of Basic Academic Attainments in different learning domains

Explanation of coding:

- (1) The capital English letters represent the requirements of basic academic attainments in different learning domains; A – “Concept and cognition”, B – “Application and creation”, C – “Communication and cooperation”, D – “Morality and responsibilities”.
- (2) The number following the English letter represents the serial number of the requirements of basic academic attainment in the respective learning domain.

Learning domain A: Concept and cognition

- A-1 Understand the meaning of information; know the types of information; be able to name the main characteristics of information and different ways of expression.
- A-2 Know the history and trend of the development of information technology, and the impact of information technology on many aspects of human society.
- A-3 Be able to enumerate some common communication tools and methods in daily life, and describe the basic composition of communication systems.
- A-4 Understand the basic structure and functional principle of personal computer systems; be able to tell the function of the main hardware components of a personal computer system.
- A-5 Be able to identify the common personal computer operating system; know the types and functions of the commonly used software and common

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- operating methods.
- A-6 Be able to identify different types of personal computers; understand their connection and differences.
 - A-7 Master the ways of managing files for personal computers; be able to compare the differences between various saving formats for multimedia files.
 - A-8 Know the application of network technology and the common ways of Internet access; learn the common skills of information retrieval on the Internet.
 - A-9 Understand the role of various kinds of cloud applications in learning and daily life; know the key methods of using cloud applications to manage different kinds of information files online.
 - A-10 Understand the sources, characteristics of and prevention methods against computer viruses; be able to enumerate the basic methods of information security protection.
 - A-11 Know the diverse ways of learning supported by information technology, understand the impact of information technology on learning styles.

Learning domain B: Application and creation

- B-1 Students studying in schools with Chinese as the medium of instruction are able to use the common text input software and hardware devices to input Chinese in a skillful manner.
- B-2 Be able to skillfully use the operating system to manage the personal computer, and properly connect commonly used external devices to transfer information files.
- B-3 Be able to efficiently save, read, retrieve, backup and manage all kinds of information files on the personal computer.
- B-4 Be able to use such hardware or software as digital equipment, the Internet to obtain the needed information.
- B-5 Be able to use suitable software for text editing, use techniques to create, in a personalised manner, text documents combined with graphics.
- B-6 Be able to use drawing software to edit images, and create image with rich imagination.
- B-7 Be able to choose the appropriate software to create animation, audio and video as well as other multimedia works.
- B-8 Be able to comprehensively use various types of information to creatively produce multimedia works.
- B-9 Be able to skillfully operate a printer to print documents, charts, and reports,

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etc.

B-10 Be able to select the appropriate media to publish multimedia works.

Learning domain C: Communication and cooperation

- C-1 Be able to showcase creations on information technology platforms, and to interact with and collect feedback from others.
- C-2 Be able to flexibly use a variety of Internet communication tools and social networks to associate with others in a friendly manner.
- C-3 Be able to use open information technology tools to share information, as well as share with others the diverse culture of Macao.
- C-4 Be able to make good use of different information technology resources to carry out various ways of interdisciplinary learning such as learning independently or in collaboration with others.
- C-5 Know the importance of teamwork; be able to use information technology to discuss together the problems around them and creatively design solutions.

Learning domain D: Morality and responsibility

- D-1 Know the importance of privacy in information technology activities; be able to protect personal privacy and respect that of other people at the same time.
- D-2 Be able to consciously protect intellectual property rights in information technology activities, and abide by related intellectual property laws and regulations.
- D-3 Be able to learn how to verify the authenticity of information; reject improper information on the Internet; spread authentic information and excellent culture.
- D-4 Know the laws and regulations related to information; develop the life and learning habits of using information technology in a healthy and civilised manner.
- D-5 Be able to actively participate in new experience of information technology; while integrating into the information society, be able to critically review and use information technology.
- D-6 Understand the impact of information technology development on society and daily life in Macao; take on the responsibilities and obligations of citizens through information technology.