

**DIATHEMATIKON PROGRAMMA**  
**CROSS-THEMATIC CURRICULUM FRAMEWORK**  
**FOR INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)**

**1. Teaching/learning aim**

Present rapid developments in the field of Information and Communication Technologies (ICT) together with computer and Internet expansion, considerably affect society, creating new needs and trends. New issues emerge, relating to information organization and management, computer-based instruction and dissemination of information, work planning and distribution, long distance communication, human identity, etc. This fact coupled with the continuously increasing knowledge and information expansion and fast outdated pose specific requirements on young people who should acquire computer literacy skills together with the necessary critical thinking and communication skills that will enable them to understand current developments and the world around them. Apart from being useful everyday tools, computers can bring major changes to educational practice, facilitating innovative and active ways of learning and assisting the development of new attitudes and skills. In this respect, computer becomes an interdisciplinary tool for accessing knowledge and information.

ICT education provides access to cultural and scientific knowledge and life-long and individualized learning. It can also improve the quality of education provided to people with special needs in regular classrooms or in special integration classes. At the same time it can assist the connection of the school curriculum with the world of work, providing opportunities for personal and social development.

ICT aims to provide pupils with opportunities to develop basic computer literacy as well as critical thinking skills and to enhance their motivation for creative action at a personal and social level. Moreover, ICT aims to help pupils develop those skills and attitudes necessary for positive interpersonal and group relationship and recognize the importance of and need for ethical and moral standards of behavior. Pupils should become familiar with the use of the computer as a tool that can enhance their learning, help them explore, develop, interpret and communicate information (using appropriate software) in the context of everyday school practice. Developing understanding of the use of ICT in major areas of social activity, including information processing in school and professional settings, communications, entertainment and computer-based learning, can facilitate student-centered teaching practices

and provide opportunities for individualized learning. Last but not least, it can help pupils acquire the necessary critical thinking and cooperation skills that will provide equal opportunities for access to knowledge and life long learning.

## **2. Content Guiding Principles, General Goals, Indicative Fundamental Cross-thematic Concepts**

At present ICT is included only in the junior high school curriculum while with the present revised curriculum it is now being introduced to Primary school curriculum, following the ‘holistic model’ of learning, according to which the educational aims are achieved through the infusion of ICT into the other subjects. To combine the two curriculum models ICT topics have been organized according to grade level on the basis of content guiding principles. These principles in turn have been developed and specified according to grade level, pupils’ age and cognitive ability. The teaching and learning aims should always be taken into consideration.

General goals are grouped according to three guiding principles: Knowledge and Methodology, Cooperation and Communication and Science and Technology in everyday life.

### *a. Knowledge and Methodology*

Pupils are introduced to fundamental concepts regarding the structure and principles of computer systems. They explore a variety of application tools, including word processing and other kinds of software for general use and acquire methodological skills. They become familiar with the computer as a tool for discovery, creation and self-expression as well as a tool of developing their thinking abilities. They develop an understanding of and explore a variety of information sources and ICT applications, including educational multimedia software, searching the Internet and interactive software.

### *b. Cooperation and Communication*

Pupils become skillful in using the operating system and application tools, including educational software as well as software for word processing, painting, searching the Internet, etc. They use ICT in the context of project work.

### *c. Science and Technology in everyday life*

Pupils reflect critically on the impact of ICT on people’s lives, considering the social, legal, ethical and moral issues (for example, Internet copyright, information security,

netiquette etc).

## I. Primary school

Grade	Content Guiding Principles	General goals (Knowledge, skills, attitudes and values).	Indicative Fundamental Cross-thematic Concepts
1 <sup>st</sup> 2 <sup>nd</sup>	<b>Becoming familiar with computers</b>	<p><b>Pupils should:</b></p> <p>recognize and understand the function of the devices and peripherals of a typical computer system;</p> <p>become informed about user protection and ergonomics;</p> <p>understand the importance of comfortable posture when sitting in front of a computer;</p> <p>become familiar with the use of computers in the home, school and workplace context.</p>	<p><b>Technology</b></p> <p><b>System</b></p> <p><b>Hygiene</b></p> <p><b>Cooperation</b></p>
	<b>Playing and learning with computers</b>	practice starting and closing down an application, receiving initially some help from the teacher but gradually acquiring autonomy.	<p><b>Function</b></p> <p><b>Progress</b></p> <p><b>Speed</b></p> <p><b>Expression</b></p>
	<b>Communicating electronically</b>	start visiting selected Internet sites (www).	<p><b>Communication</b></p> <p><b>Space-Time</b></p> <p><b>Speed</b></p> <p><b>Progress</b></p>
3 <sup>rd</sup> 4 <sup>th</sup>	<b>Becoming familiar with computers</b>	be introduced to computer Graphics User Interface (GUI).	<p><b>Technology</b></p> <p><b>Progress</b></p> <p><b>Communication</b></p> <p><b>Organization</b></p>

			<b>Organization</b> <b>Symbolism</b>
	<b>Playing and learning with computers</b>	acquire word processing and painting skills;  learn how to gather information from a variety of sources, including electronic dictionaries, databases, etc;  practice saving and opening files initially with the help of the teacher and gradually on their own.	<b>Creation</b> <b>Expression</b> <b>Space-Time</b> <b>Organization</b> <b>Classification</b> <b>Change</b> <b>Adjustment/</b> <b>Adaptation</b>
	<b>Communicate electronically</b>	visit and explore selected Internet sites (www).	<b>Communication</b> <b>Space - Time</b>
<b>5<sup>th</sup></b> <b>6<sup>th</sup></b>	<b>Becoming familiar with computers</b>	be introduced to the computer as a whole system	<b>System</b> <b>Organization</b>
	<b>Using word processing and graphics software</b>	become familiar with simple text format;  learn how to insert a picture in a text;  learn how to store and retrieve a file.	<b>Creation</b> <b>Expression</b> <b>Space – Time</b> <b>Organization</b>
	<b>Calculating and graphics design</b>	learn how to present information in tables;  be introduced to graphics design.	<b>Creation</b> <b>Expression</b>
	<b>Controlling and programming</b>	be introduced to a simple programming language (Logo like) for computer control and programming.	<b>Problem</b> <b>Organization</b> <b>Selection</b> <b>Change</b> <b>Adjustment</b> <b>Communication</b> <b>Interaction</b>
	<b>Creating-</b>	learn how to search, gather, select, process	<b>Organization</b>

	<b>Discovering- Exchanging and sharing information</b>	and present information.	<b>Selection Processing Interaction</b>
	<b>Communicating through e-mail</b>	acquire skills in using electronic mail (e-mail) initially with help and gradually on their own.	<b>Communication Space-Time Technology Progress/ Development</b>
	<b>The computer and its Applications</b>	Usage of computer in every day life;  Discussion – Concerns.	<b>Technology Communication Cooperation Change Balance Interdependence Space-Time Attitude Problem Adjustment Development Exploitation</b>

## II. Junior High school

<b>Grade</b>	<b>Content Guiding Principles</b>	<b>General goals (knowledge, skills, attitudes and values)</b>	<b>Indicative Fundamental Cross-thematic Concepts</b>
<b>1<sup>st</sup></b>	<b>Becoming familiar with the computer as a</b>	<b>Pupils should:</b>  develop an understanding of basic ICT concepts;	<b>Technology System</b>

	<b>computer as a whole system</b>	<p>be introduced to the history of computers;</p> <p>become familiar with computer hardware;</p> <p>become familiar with computer software;</p> <p>become aware of issues of hardware, software and data protection;</p> <p>become aware of issues of ergonomics and health protection.</p>	<p><b>Change</b></p> <p><b>Code</b></p> <p><b>Communication</b></p> <p><b>Space – Time</b></p> <p><b>Hygiene</b></p> <p><b>Cooperation</b></p>
	<b>Finding, storing, managing and retrieving information</b>	<p>become familiar with Graphics User Interface environment.</p> <p>become familiar with the use of Web browsers</p>	<p><b>Communication</b></p> <p><b>Technology</b></p> <p><b>Expression</b></p> <p><b>Aesthetics</b></p> <p><b>Symbolism</b></p> <p><b>Time - Space</b></p>
	<p><b>Using application tools for:</b></p> <p><b>Presenting ideas</b></p> <p><b>Exchanging and sharing information</b></p> <p><b>Finding things out</b></p>	<p>be taught to:</p> <p>present their ideas using text and pictures;</p> <p>exchange and share information through the Internet;</p> <p>develop organization, cooperation, scheduling and participation skills;</p> <p>develop a sense of responsibility.</p>	<p><b>Communication</b></p> <p><b>Technology</b></p> <p><b>Expression</b></p> <p><b>Symbolism</b></p> <p><b>Time – Space</b></p> <p><b>Change</b></p> <p><b>Progress</b></p> <p><b>Cooperation</b></p> <p><b>Interaction</b></p>
	<b>Using ICT inside and outside school</b>	Use of Computer in every day life (at school, at home, in banks etc.)	<p><b>Technology</b></p> <p><b>Communication</b></p> <p><b>Expression</b></p> <p><b>Time – Space</b></p> <p><b>Change</b></p>

			<b>Progress/ Development Communication Exploitation Interaction</b>
2 <sup>nd</sup>	<b>Becoming familiar with the computer as a whole system</b>	develop knowledge and understanding of: computer devices and peripherals, multimedia computers, their features and multimedia applications;  develop an understanding of: data and information representation; computer networks and their uses.	<b>System Time – Space Communication Symbolism Code Organization Part - Whole</b>
	<b>Finding, storing, managing and retrieving information</b>	be taught how to: find, store, manage and retrieve information for particular purposes.	<b>Technology Linearity Interaction Organization Change</b>
	<b>Using ICT tools for: Presenting ideas  Exchanging and sharing information  Finding things out</b>	be taught how to use application tools for: arithmetic processing and graphical data representation  presentations;  exchanging and sharing information via the Internet.	<b>Technology Communication Time – Space Classification Exploitation Change Problem Expression Reliability Cooperation</b>
	<b>Using ICT in the workplace</b>	reflect critically on the impact of ICT on their own and others' lives, considering issues like changes to working practices due to introduction and use of new technologies. Emerging needs.	<b>Technology Work Time – Space Exploitation Change</b>

			<b>Adjustment Need</b>
<b>3<sup>rd</sup></b>	<b>Becoming familiar with the computer as a whole system</b>	programming languages;  main stages in computer problem solving (troubleshooting);  creating and executing a program.	<b>Problem Solution Evaluation Organization Sequence Change Adjustment Communication Interaction</b>
	<b>Using ICT tools for: Presenting ideas  Exchanging and sharing information  Finding things out</b>	Creating a multimedia application.	<b>Expression Aesthetics Interaction Linearity Cooperation Evaluation</b>
	<b>The impact of ICT on society and culture</b>	become aware of the impact of ICT on science, art, culture, language, the environment, the quality of life etc.	<b>Technology Culture Digital world Environment Communication Interaction Work Progress/ Development Exploitation</b>