



Republic of Zambia

Ministry of Education, Science, Vocational Training and Early Education

COMPUTER STUDIES SYLLABUS

Grades 8 and 9



Prepared and Published by the Curriculum Development Centre
P.O. Box 50092
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JANUARY 2014

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FINAL DRAFT

VISION

Quality, lifelong education for all which is accessible, inclusive and relevant to individual, national and global needs and value systems.

FINAL DRAFT

TABLE OF CONTENTS

Preface	v
Acknowledgements	vi
Rationale.....	vii
General Outcomes	vii
Key Competences	vii
Suggested Teaching Methodology	viii
Time and Period Allocation:.....	ix
Assessment Scheme.....	x
GRADE 8 SYLLABUS	2
GRADE 9 SYLLABUS	11
Grades 8 and 9 Computer Studies Scope and Sequence.....	i
Introduction to Computer Studies.....	i
Basic Operations.....	i
Generic Application Software	i
Networks and the Internet.....	iii
Systems and Communications	iii
Computer Application	iii
Social and Economic Implications of the use of Computers.....	iii

Preface

The syllabus was produced as a result of the Curriculum review process carried out by the Ministry of Education, Science, Vocational Training and Early Education under the auspices of the Curriculum Development Centre (CDC). The curriculum reform process started way back in 1999 when the Ministry of Education commissioned five (5) curriculum studies, which were conducted by the University of Zambia. These studies were followed by a review of the lower and middle basic and primary teacher education curriculum. In 2005 the upper basic education National survey was conducted and information from learners, parents, teachers, school managers, educational administrators, tertiary institutions traditional leaders civic leaders and various stakeholders in education was collected to help design a relevant curriculum.

The recommendations provided by various stakeholders during the Upper Basic Education National survey of 2005 and National symposium on curriculum held in June 2009 guided the review process.

The review was necessitated by the need to provide an education system that would not only incorporate latest social, economic, technological and political developments but also equip learners with vital knowledge, skills and values that are necessary to contribute to the attainment of Vision 2030.

The syllabus has been reviewed in line with the Outcome Based Education principles which seek to link education to real life experiences that give learners skills to access, criticize analyse and practically apply knowledge that help them gain life skills. Its competences and general outcomes are the expected outcomes to be attained by the learners through the acquisition of knowledge, skills, techniques and values which are very important for the total development of the individual and the nation as a whole.

Effective implementation of Outcome Based Education requires that the following principles be observed: clarity of focus, Reflective designing, setting high expectations for all learners and appropriate opportunities.

It is my sincere hope that this Outcome Based syllabus will greatly improve the quality of education provided at Grade 8 and 9 level as defined and recommended in various policy documents including '*Educating Our Future 1996*' and the '*Zambia Education Curriculum Framework 2013*'.



Chishimba Nkossa
Permanent Secretary
Ministry Of Education, Science, Vocational Training and Early Education.

Acknowledgements

The syllabus presented here is a result of broad-based consultation involving several stakeholders within and outside the education system. Many individuals, institutions and organizations were consulted to gather their views on the existing syllabus and to accord them an opportunity to make suggestions for the new syllabus. The Ministry of Education wishes to express heartfelt gratitude to all those who participated for their valuable contributions, which resulted in the development of this syllabus.

The Curriculum Development Centre worked closely with other sister departments and institutions to create this document. We sincerely thank the Directorate of Teacher Education and Specialized Services, the Directorate of Planning and Information, the Directorate of Human Resource and Administration, the Directorate of Open and Distance Education, the Examinations Council of Zambia, the University of Zambia, schools and other institutions too numerous to mention, for their steadfast support.

We pay special tribute to co-operating partners especially JICA and UNICEF for rendering financial technical support in the production of the syllabus.



C.N.M Sakala (Mrs)

Director-Standard and Curriculum

Ministry Of Education, Science, Vocational Training and Early Education

Rationale

The major focus of Computer Studies is the development of productivity tools skills, which are important for success in future postsecondary studies. Computer Studies is relevant for all students because it incorporates a broad range of transferable skills and techniques, including logical thinking, creative design, synthesis, and evaluation. It also teaches generically useful skills in such areas as communication, time management, organization, and teamwork.

Computer Studies will provide students with the knowledge and skills to understand the underpinnings of current computer technology and prepare them for emerging technologies. A foundation in this discipline will introduce learners to the excitement and opportunities afforded by this dynamic field and will begin to prepare them for a range of rewarding careers.

The subject will build a strong foundation for those who wish to move on to further study and training in specialized areas such as; computer science, education, computer engineering, software engineering, information technology, database analysis, and game development.

General Outcomes

- Computer Studies is relevant for all students because it incorporates a broad range of transferable skills and techniques, including logical thinking, and creativity.
- Computer Studies teaches generically useful skills in such areas as communication, time management, organization, and teamwork.

Key Competences

- ***Understand and apply requirements of Computer Studies ethics and security:***
Learners are expected to be competent in applying the new knowledge so acquired in advancing their daily lives of those of others. They should be able to use computer related software, gadgets and appliances without difficulty. They should also be able to understand the language that is normally used in computing.
Awareness of the risks of using the computer is also important at this level. Software and hardware security is also of great importance at this level.
- ***Share their knowledge and skills through the internet:***
The Internet is a very powerful media of communication nowadays. After learning CS learners should be able to find useful information using the Internet. They should also be aware of the dangers of using the Internet. The correct use of email addresses for formal communications purposes is vital and. Collaborate and share knowledge and ideas with others.

▪ ***Create posters and other advertisement materials for the school events:***

Learners are expected to be conversant in using multimedia software at this level of education. Learners should be able to correctly use word processing and presentation software.

▪ ***Carry out a simple Computer related project:***

To enhance their understanding at this level learners will be expected to carry out simple computer related projects either in word processing or multimedia of computing.

Suggested Teaching Methodology

Computer Studies (CSt) syllabus offers a wide perspective of the subject. It is not restricted to computers but rather usage and application of a variety of technologies and its impact on society. The nature of the CSt subject is such that it will best be learnt within the context of application. As such, activities that replicate real life should form an integral part of the teaching and learning methodologies. CSt is meant to prepare learners for the world of work, further education within the discipline and simply lifelong application of technology. Since CSt is extremely dynamic and also significantly always impacting on the way we live, learners should be encouraged to grapple with its complexities if they are to become competitive citizens in today's globalised world.

It is suggested that individual and/or group work/ or homework be given to learners to do during their spare time or prep. The computer laboratory may be open to learners to do their assignments. However learners should never be left alone in the computer laboratory especially when it involves searching for information from the Internet. The teacher should try by all means to desist learners from visiting offensive websites.

The indicator of the achievement of these General outcomes will be based on acquisition of the skills through Assessment of the learner's competence on both theory and practical outcomes. The sequence of the syllabus does not necessarily dictate the order in which topics are to be taught.

Principles and procedures

Learners need to develop skills to help them learn. Skills development should happen as a part of learners' learning experiences and the learning and practising of skills needs to occur in the context of units being taught.

Learning of Skills tends to be most effective when:

- learners go from the known to the unknown

- learners understand why it is necessary to gain mastery of specific skills
- skills are developed sequentially at increasing levels of difficulty
- learners identify and analyse the components of the skill
- there are frequent opportunities for practice and immediate feedback possibly frequent use of computer or computer embedded gadgets or tools.
- the skills being taught are varied in terms of amount and type, according to the needs and ability of learners

To teach skills effectively, a teacher needs to include learning activities that span from teacher-directed to student-centred learning, use groups of different sizes ranging from the whole class to small groups and use a range of teaching strategies which use higher-order skills as learners' progress.

Teaching and Learning Strategies for Computer Studies

Teaching and learning strategies for Computer Studies shall include:

Brainstorming - to stimulate creative thinking, Consequence charts - Cause and effect approach, Classroom displays (focuses on the current unit), Charts, Diagrams, Evaluation, Discussion, Guest speaker or visitor, educational tours and visits, Models, Photographs and pictures, Presentations, Problem solving - Learners are involved in identifying and working towards solutions, Reflective learning - thinking about what has been learnt, Research - to think of the questions you want learners to answer.

Software

Throughout the course the minimum recommended Operating System (OS) is Microsoft Windows Vista ®. Microsoft Office 2007 ® or later versions will also be assumed for use to demonstrate Word processing (Word), Spread sheets (Excel), Presentation (PowerPoint), Desktop Publishing (Publisher) and Multimedia

Time and Period Allocation:

This syllabus covers a two-year course in Computer Studies and will require at least four 40-minute periods per week to complete (One double for practical and two single periods for theory).

Assessment Scheme

The assessment framework utilises various types of continuous assessment strategies. This is meant to determine learners' competences in the CS outcomes presented here. It is desired that the teacher as much as possible utilise assessment strategies that promote active learning by the learner. The case in point includes portfolios, observation sheets (to gauge certain competences), written assignments and reports, presentations, projects and experiments.

Computer Studies is a practical subject and as such this syllabus places a lot of emphasis on the use of common application packages. Object oriented programming languages will not be examined at this level. It will therefore be the schools' responsibility to ensure that relevant equipment and software needed by learners to meet the minimum requirements for assessment purposes are acquired.

The final assessment of Computer Studies is divided into two sections.

1. Theory (Paper 1) - (External assessment by the examination board): 60%
2. Practical (Paper 2) - (External assessment by the examination board): 40%

Computer Studies assessment at junior secondary school level covers the six categories of Bloom's Taxonomy with their respective weightings on Assessment Objectives (AOs) as shown below:

Paper	Levels of Assessment	Weighting on AOs	TOTAL MARKS
PAPER 1	Knowledge and Comprehension	25%	60
	Analysis (Analytical Skills)	11%	
PAPER 2	Application (Hands on Skills)	57%	40
	Synthesis and Evaluation	7%	
Total Marks of Paper1 and Paper 2			100%

The weightings of the subject will be done against Assessment Objectives (AOs) and these are drawn from the whole junior secondary school syllabus.

It is therefore important that the teacher well balances the teaching of the content of the subject accordingly.

GRADE 8

General Outcomes

- Demonstrate an understanding of the concept of **safety and misuse** when using technology
- **Operate and take care** of a computer and its common peripherals
- Use a computer to **accomplish given tasks**.
- **Appreciate** the role computers play in everyday life.
- **Demonstrate** understanding and operating skills required for a variety of CSt
- **Communicate** using appropriate multimedia to interact with others.
- Enable learners attain **Entrepreneurship** skills for survival
- Use computer as a tool for **learning** and **understanding** other subjects

Key Competences

- Use the computer and its productivity tools effectively.
- Understand and apply requirements of CS ethics and security.
- Share their knowledge and skills through the internet
- Create posters and other advertisement materials for the school events.
- Collaborate and share knowledge and ideas with others.
- Understand basic principles behind productivity tools
- Apply basic productivity tools across their similar products
- Apply basic principles of Windows.

GRADE 8 SYLLABUS

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
8.1 Introduction to Computer Studies	8.1.1. Parts of a computer 8.1.2. Input-process-output operations	8.1.1.1 Describe the main parts of a computer 8.1.1.2 State the three basic operations in a computer system. 8.1.1.3 Relate computer parts to the basic operations 8.1.2.4 Identify a computer as a general purpose machine that operates under different sets of instructions for various uses 8.1.2.1 Differentiate between data and information. 8.1.2.2. Components of a computer system	<ul style="list-style-type: none"> Hardware (Monitor, Keyboard, Mouse, Central Processing Unit-CPU, Uninterruptible Power Supply-UPS, printer, scanner), Software (Include: Various programmes such as the Operating system, Word processors) Difference between data and information Computer as a general purpose machine Components of a computer system (Include: central processing unit – CPU, input devices, storage devices and output devices) Uses of main parts of computer Advantages and disadvantages of a computer system Appreciating different types of storage media 	<ul style="list-style-type: none"> Observation Identification of computer parts Switching on and switching off a computer system. Comparing roles of the computer parts. Connecting a computer to a power cable and peripherals Interpretation of some computer system acronyms 	<ul style="list-style-type: none"> Computer appreciation Team work in identifying parts of the computer. Safety consciousness in handling computer.
8.2 Basic Operations	8.2.1. Health and safety 8.2.2. Care for Computer Systems 8.2.3. Computers and peripherals	8.2.1.1 Know correct posture to avoid injuries. 8.2.2.1 Demonstrate the need to take care of computer and storage media to prevent data loss 8.2.3.1 Power up and down of	<ul style="list-style-type: none"> Assuming correct posture to avoid injuries. Safety issues associated with ICT use(e.g. securing power cables and avoiding liquids and dust near computers.) 	<ul style="list-style-type: none"> Manipulation of the keyboard efficiently. Identification of home keys on the keyboard. Connecting 	<ul style="list-style-type: none"> Teamwork in identifying computer peripherals. Appreciation of antiviruses.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
	8.2.4. Security and Viruses 8.2.5. Types of user interfaces	computers and various technologies and peripherals correctly 8.2.3.2 Perform basic computer operations 8.2.4.1 Explain the consequences of theft of computers or other portable ICT devices and computer viruses. 8.2.5.1 Interact with icons and menus in a Graphic User Interface (GUI) environment.	<ul style="list-style-type: none"> Sequence of powering up and down of various technologies(i.e. TV, cell phone, printer, scanner, etc) Basic computer operations (e.g. Moving cursor, clicking on icon, using pull-down menus, ejecting disks etc) Consequences of theft of computers or other portable ICT devices Using different types of user interfaces Pros and cons of different types of interface (command driven and graphical user interfaces) 	<p>computers to power cables and peripherals.</p> <ul style="list-style-type: none"> Comparing and contrasting roles of the computer system. Securing computers 	
8.3 Computers in everyday life	8.3.1 Household, Entertainment and recreation appliances 8.3.2 Office Equipment 8.3.3 Industrial and Commercial Applications of computers 8.3.4 Computer based learning 8.3.5 Social and economic effects of computers	8.3.1.1 Identify and demonstrate the use of household appliances and devices that are controlled by embedded microprocessors 8.3.2.1 State common uses of office equipment 8.3.3.1 Describe knowledge of using computers in Industry. 8.3.4.1 Identify the role computers play in aiding learning 8.3.5.1 Identify social and economic effects of computers	<ul style="list-style-type: none"> Household appliances and devices that are controlled by embedded microprocessors (e.g. Washing machines, microwave ovens, digital watches and cameras) Common uses of office equipment (Include: Computers, Printers, Fax machines, Telephone systems, Liquid Computer Device -LCD projectors, scanners etc) Computers in Industry (Include: chemical processing plants i.e. 	<ul style="list-style-type: none"> Identification use of household appliances and devices that are controlled by embedded microprocessors Manipulation of computer related appliances. Demonstration of use of household appliances and devices that are controlled by embedded microprocessors. 	<ul style="list-style-type: none"> Appreciation of use of computer in industries and home. Skilfulness in using computers in everyday life. Inquisitiveness in using computers.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
			<p>Indeni, Mining, Liming and Cement, beverage manufacturing / Financial institutions i.e LUSE, Health, Ticket reservation systems, defence and security etc)</p> <ul style="list-style-type: none"> Computers as aids for learning (e.g. Self placed interactive lessons that effectively use multimedia) Social and economic effects of computers (e.g. security concerns, deskilling, failure of systems, dependability on systems, human rights violation and computer misuse, cyber crime) 	<ul style="list-style-type: none"> Identification of social and economic effects of computers 	
8.4 Productivity Tools (Word Processing)	8.4.1 Introduction to Windows 8.4.2 Key in and Edit Text 8.4.3 Text Manipulation and Formatting 8.4.4 Proof Reading 8.4.5 Print Preview and Printing 8.4.6 Saving Files 8.4.7 Drawing Simple Graphics	8.4.1.1 Demonstrate how to operate Windows 8.4.1.2 Demonstrate how to start and quit a program 8.4.2.1 Demonstrate text input, type over, insertion of words and symbols, deletion and reformatting 8.4.3.1 Demonstrate copying, deleting and moving blocks of text within a document 8.4.3.2 Illustrate the use of a clipboard 8.4.3.3 Use the undo command to reverse the effect of the last action 8.4.3.4 Use the redo command to	<ul style="list-style-type: none"> Familiarise with the main functions of the keyboard, shift and control keys (Include: keyboard shortcuts to windows operations) start and quit a program Text input, type over, insertion of words and symbols, deletion and reformatting Copying, deleting and moving blocks of text within a document Clipboard (temporary storage area in the memory) Undo command to reverse 	<ul style="list-style-type: none"> Inputting data correctly in a word processor. Icon identification of productivity tools. Manipulation of text in the word processor. Agility in typing text Text management (inputting of text, formatting of text) Accuracy in entering data in a word processor. 	<ul style="list-style-type: none"> Productivity in using word processor. Efficiency in text manipulation and editing. Effectiveness in the use of productivity tools. Entrepreneurship in using productivity tools. Appreciation of productivity tools.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		reverse the undo action 8.4.4.1 Check the spelling of words in a document against a built-in dictionary 8.4.4.2 Describe the limitations of the spelling checker 8.4.5.1 Use the print preview and print a document 8.4.6.1 Demonstrate how to save a file to a specific location or media 8.4.7.1 Create graphics using basic graphic elements	the effect of the last action <ul style="list-style-type: none"> Redo command to reverse the undo action Spelling of words in a document against a built-in dictionary (Include: Thesaurus) Limitations of the spelling checker Print preview and print a document Saving a file to a specific location or media graphics using basic graphic elements (e.g. lines, curves, sectors, polygons, circles, ovals, squares and rectangles) 		
8.5 Productivity Tools (Spread Sheets)	8.5.1 Introduction to Spreadsheet. 8.5.2 Entering and editing data 8.5.3 Adding Formula 8.5.4 Saving and Printing	8.5.1.1 Demonstrate an understanding of the concept of worksheet and workbook 8.5.1.2 Explain the common features of a spreadsheet 8.5.1.3 Demonstrate the application of a spreadsheet in everyday life 8.5.2.1 Enter and manipulate data using spread sheets for a specific purpose 8.5.2.2 Illustrate the skill of entering text and numbers in specified cells 8.5.2.3 Delete and edit text and	<ul style="list-style-type: none"> Worksheet and workbook Common features of a spreadsheet (cells, formula bars) Application of a spreadsheet in everyday life (i.e. Student records, business stock, accounting, invoices) Entering and manipulating data using spread sheets Deleting and editing text and numbers in cells as required Entering text and numbers in specified cells Entering data, numbers and 	<ul style="list-style-type: none"> Loading of a single or more spreadsheet Switching between worksheets and between workbooks Application of addition, subtraction, multiplication and division symbols with formulae Manipulation Application of quick numerical 	<ul style="list-style-type: none"> Accuracy in using spreadsheet. Appreciation of use of spreadsheet in making calculations. Quality work in the use of spreadsheet.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		<p>numbers in cells as required</p> <p>8.5.3.1 Enter data, numbers and apply simple formula with a range not more than ten cell addresses</p> <p>8.5.3.2 Design, create and modify a spread sheet for a specific purpose with a maximum of five cell addresses</p> <p>8.5.4.1 Save to specified folder and print a spread sheet</p> <p>8.5.4.2 Change magnification to appropriate percentage to print a given spread sheet</p>	<p>applying simple formula with a range not more than ten cell addresses (i.e. addition, subtraction, multiplication and division)</p> <ul style="list-style-type: none"> • Designing, creating and modifying a spread sheet for a specific purpose (using functions like sum, product, average and quotient) with a maximum of five cell addresses • Saving to specified folder and print a spread sheet • Changing magnification to appropriate percentage to print a given spread sheet formulae 	<p>computations</p> <ul style="list-style-type: none"> • Accuracy in the use of spreadsheet. • Designing of a required spreadsheet. 	
8.6 Productivity Tools (PowerPoint)	8.6.1. Getting Started with PowerPoint 8.6.2. Slides & Presentations	<p>8.6.1.1. Getting Started</p> <p>8.6.1.2. Understand PowerPoint Principles</p> <p>8.6.1.3. Start PowerPoint</p> <p>8.6.1.4. Use an Installed Template</p> <p>8.6.1.5. Recognize the Screen Layout</p> <p>8.6.1.6. Understand the Ribbon and Quick Access Toolbar</p> <p>8.6.1.7. Use Help</p>	<ul style="list-style-type: none"> • Getting Started • PowerPoint Principles • Starting PowerPoint • Using Installed Template • Recognizing the Screen Layout • Ribbon and Quick Access Toolbar • Use Help • Different Views • Slide Show Basics • Save, Close and Open Presentations • Presentation / Design Templates • Slides / Insert Slides / Delete Slides 	<ul style="list-style-type: none"> • Presenting Powerpoint • Formatting slide shows. • Enhancing slide shows • Working with objects in PowerPoint • Identifying pre-designed layouts or template for appropriate tasks • Modifying already created publications • Enhancing 	<ul style="list-style-type: none"> • Productivity (Powerpoint Presentations) • Efficiency in the use of productivity tools in PowerPoint. • Entrepreneurship (Presentations etc) • Effectiveness in the use of productivity in PowerPoint tools. • Inquisitiveness in the use of PowerPoint

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		8.6.2.1. Understand and Use Different Views 8.6.2.2. Understand Slide Show Basics 8.6.2.3. Save, Close and Open Presentations 8.6.2.4. Use Presentation / Design Templates 8.6.2.5. Add New Slides / Insert Slides / Delete Slides 8.6.2.6. Change Slide Layout and Background	<ul style="list-style-type: none"> Slide Layout and Background 	objects in publications	<ul style="list-style-type: none"> Efficiency in the use of PowerPoint.
8.7 Productivity Tools (Desktop publishing)	8.7.1. Publishing basics and Features 8.7.2. Pre-designed layouts or Templates 8.7.3. Fonts 8.7.4. Elementary Graphics 8.7.5. Colours and Fonts 8.7.6. 8.6.6 Clip art/Re-designed graphics	8.7.1.1. Define desktop publishing 8.7.1.2. Identify the two types of a publication 8.7.1.3. Compare different features of desktop publishing and word processing software 8.7.1.4. Generate frames in which text and graphics are placed 8.7.1.5. Edit the layout of a publication 8.7.2.1 Input text directly into a publication 8.7.2.2 Import text from word processing document into a publication 8.7.3.1 Apply the three elements of fonts. 8.7.4.1 Create graphics using basic graphic elements 8.7.5.1 Select colours for the outlines and fill of objects from the palette	<ul style="list-style-type: none"> Desktop publishing (Include: typesetting, and layout designs using desktop computers) Types of a publication (Include: text and graphics) Features of desktop publishing and word processing software Frames in which text and graphics are placed Editing the layout of a publication Inputting text into a publication Importing text from word processing document into a publication Three elements of fonts (Include: typeface, style and point size) Graphics using basic 	<ul style="list-style-type: none"> Identification of productivity tools. Manipulation of productivity tools Accuracy in the use of productivity tools. Loading a publishing package Switching between two or more loaded publishing packages 	<ul style="list-style-type: none"> Entrepreneurship in the use of productivity tools. Accuracy in the use of productivity tools. Teamwork in designing graphics. Quality work in using desktop publishing. Appreciation of the use of desktop publishing.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		8.7.5.2 Integrate Text into graphic design 8.7.6.1 Retrieve and edit pre-designed graphics to compose a picture 8.7.6.2 Know how productivity tools complement each other	graphic elements (e.g. lines, curves, sectors, polygons, circles, ovals, squares and rectangles) <ul style="list-style-type: none"> • Colours for the outlines and fill of objects from the palette • Integrating Text into graphic design • Retrieving and editing pre-designed graphics to compose a picture • Identify how productivity tools compliment each other 		
8.8 Networks and the Internet	8.8.1. Networking 8.8.2. The Internet 8.8.3. Web browsers 8.8.4. Using search engines 8.8.5. Email	8.8.1.1 Analyse the rationale of networking computers in different locations. 8.8.1.2 Differentiate between Wired and wireless networks 8.8.2.1 Describe how to access information using a local area network and a Wide area network. 8.8.2.2 Upload and download text, image, audio and video files 8.8.2.3 Illustrate ability to search the web for specific information. 8.8.3.1 Identify web browsers as a tool to accessing web pages on the internet. 8.8.3.2 Demonstrate how to open a web browser and go to	<ul style="list-style-type: none"> • Networking computers in different locations (Include: sharing software, documents, databases and other resources) • Differentiate between Wired and wireless networks • Display proficiency in accessing information using a local area network (LAN), and a Wide area network (WAN) • Upload and download text, image, audio and video files • Illustrate ability to search the web for specific information. • Recognise web browsers as a tool to accessing web pages on the internet 	<ul style="list-style-type: none"> • Connecting a network cable to a computer • Accessing different media files from external storage devices and internal storage devices • Launching a web browser • Entering default web sites and edit the sites to different ones • Retrieving (Searching) specific information from the Internet 	<ul style="list-style-type: none"> • Understanding of types of ports (connection points) • Appreciation of internal storage media and external storage media • Appreciation that information is also stored on remote computers which require internet connection to access information

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		<p>specific Universal Resource Locator (URL)</p> <p>8.8.4.1 Define a search engine and what it is used for</p> <p>8.8.4.2 Use a search engine to look for information on the internet</p> <p>8.8.5.1 Explain what email is used for</p>	<p>(Include: Firefox, Safari, Internet Explorer etc)</p> <ul style="list-style-type: none"> • Demonstrate how to open a web browser and go to specific Universal Resource Locator (URL) • Define a search engine and what it is used for • Use a search engine to look for information on the internet • Use email 		
8.9 Multimedia Files	<p>8.9.1 Introduction to multimedia files</p> <p>8.9.2 Graphics</p> <p>8.9.3 Video and Audio</p>	<p>8.9.1.1 Introduction to multimedia files.</p> <p>8.9.2.1 Create a multimedia presentation incorporating visual image features</p> <p>8.9.3.2 Access available databases for images, sound clips or recorded voice to support communication</p> <p>8.9.3.3 Support communications by controlling the flow of a presentation.</p>	<ul style="list-style-type: none"> • Differences between various types of media (Include: clip art, video clips, sound and animated images) • Search for locally available multimedia files on the computer • Controlling presentations using arrow keys (Include: screen transitions, animating text and graphics) 	<ul style="list-style-type: none"> • Loading a multimedia package • Adding media clips to a presentation 	<ul style="list-style-type: none"> • Value enhancing to physically challenged learners • Productivity in using multimedia files. • Efficiency in the use of multimedia. • Effectiveness in the use video and audio on the computer system.

GRADE 9

General Outcomes

- Demonstrate an understanding of the concept of **safety and misuse** when using technology
- **Operate and take care** of a computer and its common peripherals
- Use a computer to **accomplish given tasks**
- **Appreciate** the role computers play in everyday life.
- **demonstrate** understanding and operating skills required for a variety of ICTS
- **Communicate** using appropriate multimedia to interact with others.
- Enable **learners attain** Entrepreneurship skills for survival

Key Competences

- Use the computer and its productivity tools effectively.
- Understand and apply requirements of CS ethics and security.
- Share their knowledge and skills through the internet
- Create posters and other advertisement materials for the school events.
- Collaborate and share knowledge and ideas with others.
- Understand basic principles behind productivity tools
- Apply basic productivity tools across their similar products
- Apply basic principles of Windows.

GRADE 9 SYLLABUS

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
9.1 Introduction to Computers	9.1.1 Peripheral devices 9.1.2 Input-process-output operations	9.1.2.1 Connecting peripheral devices to their appropriate computer ports 9.1.2.1 Speed of CPU. 9.1.3.1 Identify meaningful information as a result of processed input data by the computer 9.1.3.2 Appreciate that certain devices are both input as well as output	<ul style="list-style-type: none"> Peripheral devices (Include: PDAs) Recognise units of speed of a CPU (Include: Megahertz (MHz) or Gigahertz (GHz)) Defining basic computer terminology Peripheral devices Units of the processing speed and their relationship Units of storage – BIT, Byte, Megabyte, Gigabyte and their conversions. Input, process and output devices (Include: touch screens) 	<ul style="list-style-type: none"> Connecting peripheral devices to their <i>appropriate</i> computer ports Converting of bytes into Bits and converting Bits into Bytes, Kilobytes and Megabytes Interpreting the various files sizes Relating file size to storage space. 	<ul style="list-style-type: none"> Appreciating the various types of ports (serial, parallel and USB) Relation between processing speed and file size Appreciation of limitations of storage media regarding size
9.2 Basic Operations	9.2.1 Unresponsive computer 9.2.2 Security and Viruses 9.2.3 Copyright 9.2.4 Storage media	9.2.1.1 Determine how to shut down an unresponsive computer 9.2.2.1 Determine why usernames and passwords are used on computers 9.2.2.2 Identify and apply safety procedures,	<ul style="list-style-type: none"> How to rectify program failure of booting and shutting down. Security issues associated with ICT use Identify licensed software installed on a computer 	<ul style="list-style-type: none"> Shutting down unresponsive computer system. Installation and launching of Antivirus software Verifying the authenticity of software Inserting memory cards in computers, digital cameras, cell phones and related 	<ul style="list-style-type: none"> Minimizing the effects of computer system failure Avoiding compromising the system integrate Enhancement of computer system Appreciating copyright laws

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		<p>such as antivirus scans and virus checks in maintaining data integrity</p> <p>9.2.3.1 Know how to check the ID number for a software product</p> <p>9.2.3.2 Define the terms freeware, shareware and end-user licence agreement</p> <p>9.2.4.1 Compare the relationship between different measures of storage media capacities</p>	<ul style="list-style-type: none"> Understand the difference between open source software and proprietary software Identify types of memory (Include: primary and secondary memory, kilobyte, megabyte, gigabyte) 	<p>devices.</p> <ul style="list-style-type: none"> Converting memory size from one type to the other. Calculation of memory sizes and their implications on storage. 	<ul style="list-style-type: none"> Appreciating the vulnerability of memory cards on portable and hand-held devices
9.3 Information technology in everyday life	<p>9.3.1. Household appliances</p> <p>9.3.2. Computer based learning (CBL)</p> <p>9.3.3. Computers in banking and e-commerce</p> <p>9.3.4. Point of Sale</p> <p>9.3.5. Magnetic and smart cards</p>	<p>9.3.1.1 Describe particular technologies being used for specific purposes in the home</p> <p>9.3.1.2 Infer, using examples, how information and communication networks create a global community</p> <p>9.3.1.3 Demonstrate an understanding of new and emerging communication systems</p> <p>9.3.2.1 Identify different types of CBL software</p>	<ul style="list-style-type: none"> How to connect household equipment (Include: Connecting a decoder, DVD player, Hi-Fi system to a TV) How to connect office equipment (Include: connecting LCD projectors, scanners, printers, digital cameras, cell phones to computers) Appreciating the various communication technologies 	<ul style="list-style-type: none"> Connecting of household equipment (connecting a decoder, DVD, player, Hi-Fi system to a TV) Connecting of office equipment (Include: Connecting LCD projectors, scanners, printers, digital cameras, cell phones to computers) Making calls and Saving phone numbers on cell phones Starting a online conversation (Include: Skype) Signing in oneself to a particular social network (e-mail, Skype, Facebook, 	<ul style="list-style-type: none"> Avoiding damage to household and office equipment. Maximising the use of household equipment Avoiding damage to office equipment Knowledge of record keeping Communicating using internet technologies Managing access to computer resources (stocks and price lists) Integration of Computers in other learning areas.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		9.3.3.1 Associate the use of computers to organise, retrieve and process data 9.3.3.2 Appreciate the linking of computers in different locations to enable electronic fund transfer. 9.3.3.3 Describe e-commerce and the process of purchasing goods and services online 9.3.3.4 List advantages and disadvantages of e-commerce 9.3.4.1 State common uses of computers in the supermarket 9.3.4.2 Determine the significance of using bar codes in the super market (Include: identifying products, statistics and keeping track of sold items) 9.3.5.1 Associate the use of PIN (personal identification number) as a security measure to initiate transaction	<ul style="list-style-type: none"> • Examples of CBL Software (Include: drill practice, tutorial, simulation, problem solving etc.) • Knowledge of social networks (Include: cell phones, internet, Skype etc.) • Knowledge of directory, folders and files • Linking of computers in different locations to enable electronic fund transfer (Include: GIRO, NETS, and Automated Teller Machines-ATMs etc.) • How to conduct online transaction • Discussing the pro and cons of e-commerce • Appreciate the use of bar codes • Fundamental information contained on the bar code • The link between the price list and the bar 	Twitter) <ul style="list-style-type: none"> • Manipulating accounts (include: Creating, changing, editing and deleting user accounts 	

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		9.3.5.2 using magnetic card Describe the benefits of the trend towards cashless electronic transaction	code • Security in business transactions among workers • Appreciate stock management		
9.4 Productivity Tools (Word Processing)	9.4.1 Keyboard skills 9.4.2 Document setup and layout 9.4.3 Search and replace 9.4.4 Copying text from other document windows 9.4.5 Pagination 9.4.6 Page formatting 9.4.7 Finding and file retrieval	9.4.1.1 Exhibit mastery of the keyboard keys including function keys and touch typing 9.4.2.1 Use the tab key to indent the first line of the paragraph 9.4.2.2 Demonstrate competence in creating tables, inserting and deleting rows and columns 9.4.2.3 Insert objects (e.g. Clip art, mathematical formula etc) 9.4.3.1 Use the search command to locate specified text quickly in a document 9.4.3.2 Use the search and replace command to carry out replacement of specified text quickly in a document	• How to use function keys (F1 to F12) and combination keys • How to create paragraphs in word processing • How to create, edit and delete tables using the table insert • How to Integrate clip art and mathematical formulae in word processing document • How to use find or search command to locate a specified word • How to replace a located word • How to use copy / cut and paste • How to insert roman numerals and denary page numbers in a word document • How to insert page breaks • How to set page	• Using function keys (F1 to F12) and combination keys • Creating paragraphs in word processing • creating, editing and deleting tables using the table insert • Integrating clip art and mathematical formulae in word processing document • Finding or searching command to locate a specified word • Replacing a located word • Inserting roman numerals and denary page numbers in a word document • Inserting page breaks • Inserting page margins, paper size and page orientation before printing a document • Saving and saving as commands when saving a file to a specified storage external or internal storage devices • Deleting a file and a folder containing files and how to retrieve a deleted file that	• Productivity (letter writing, minutes, assignments etc) • Efficiency in the use of productivity tools. • Entrepreneurship (letter and document writing, minutes, assignments etc) • Effectiveness in the use of productivity tools.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		9.4.4.1 Copy blocks of text from one document window to another 9.4.5.1 Demonstrate insertion of page numbers of any given format 9.4.5.2 Insert page and section breaks to organise text in a document 9.4.6.1 Use the page set up command to set margins, paper size and page orientation 9.4.8.1 Demonstrate ability to save file to a specified storage drive or device 9.4.8.2 Navigate to a particular drive and retrieve a specific file 9.4.8.3 Delete file(s) and retrieve from the recycle bin	margins, paper size and page orientation before printing a document <ul style="list-style-type: none"> • How to use save and save as when saving a file to a specified storage external or internal storage devices • How to delete a file and a folder containing files and how to retrieve a deleted file on the computer from the recycle bin • Import the drawn pie chart from a spreadsheet into a word processor 	was on the computer from the <i>recycle bin</i>	
9.5 Productivity Tools (Spread Sheets)	9.5.1. Amending a spread sheet 9.5.2. Formatting cells 9.5.3. Sorting and filtering data 9.5.4. Using Formula and Functions. 9.5.5. Charts	9.5.2.1 Insert and delete columns and rows as required 9.5.3.1 Change column width and row height as required 9.5.3.2 Change number of decimal places displayed in cells as required	<ul style="list-style-type: none"> • How to draw pie chart using a spreadsheet. • How to insert and delete columns and rows as required • How to change column width and row height • How to change 	<ul style="list-style-type: none"> • Drawing pie chart using a spreadsheet. • Linking spreadsheet to word document using hyperlinks • Importing the drawn pie chart from a spreadsheet into a word processor • Sorting data in a pre-determined sequence • Filtering of data in a 	<ul style="list-style-type: none"> • Productivity in budgeting, accounting, sales forecasting, stock management. • Efficiency in using spreadsheet. • Entrepreneurship in the use of spreadsheet in tracking a business. • Effectiveness of

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
		9.5.3.3 Change text orientation within a cell 9.5.4.1 Sort and filter data as specified 9.5.5.1 Enter data, numbers and apply more advanced formula. 9.5.4.1 Change percentage specification to print a given spread sheet 9.5.5.1. Use chart wizard to create bar, line and pie charts of selected data 9.5.5.2. Print a chart	decimal places in cells <ul style="list-style-type: none"> • How to change text orientation in a particular cell or a group of cells • How to apply advanced functions (Include: SUM, AVERAGE, IF, MAX, MIN, COUNT, COUNTA, SUMIF) • How to change percentage specification using zoom facility • How to use chart wizard • How to link spreadsheet to word document using hyperlinks • How to export the drawn pie chart from a spreadsheet into a word processor • How to print preview and print • How to paginate using page break preview 	spreadsheet <ul style="list-style-type: none"> • Interpreting numerical data into graphs or charts • Application of mathematical concepts. 	spreadsheet.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
9.6 Productivity Tools (PowerPoint)	9.6.1. Formatting	9.6.1.1. Use Animation Schemes and Custom Animation	Animation Schemes and Custom Animation	<ul style="list-style-type: none"> • Presenting PowerPoint • Formatting slide shows. • Enhancing slide shows • Working with objects in PowerPoint presentation • Identifying pre-designed layouts or template for appropriate tasks • Modifying already created publications • Enhancing objects in publications 	<ul style="list-style-type: none"> • Productivity (PowerPoint Presentations) • Efficiency in the use of productivity tools in PowerPoint. • Entrepreneurship (Presentations etc) • Effectiveness in the use of productivity in PowerPoint tools. • Inquisitiveness in the use of PowerPoint • Efficiency in the use of PowerPoint.
	9.6.2. PowerPoint Objects	9.6.1.2. Apply Headers & Footers	• Headers & Footers		
		9.6.1.3. Work with Slide Master	• Slide Master		
	9.6.3. Slide Shows	9.6.2.1. Insert and Animate Images	• Organization Chart		
		9.6.2.2. Insert a Chart	• Move, Resize and Copy Objects		
		9.6.2.3. Use Drawing Tools and Shapes on Slides	• Images		
		9.6.2.4. Select, Rotate and Flip Objects	• Chart		
		9.6.2.5. Arrange and Distribute Objects	• Drawing Tools and Shapes on Slides		
		9.6.2.6. Change Object Colours	• Select, Rotate and Flip Objects		
	9.6.2.7. Import Images	• Arrange and Distribute Objects			
	9.6.3.1. Select the Correct Output Format	• Change Object Colours			
	9.6.3.2. Set up a Slide Show	• Import Images			
	9.6.3.3. Apply Slide Transitions	• Output Format			
9.6.3.4. Run the Presentation	• Set up a Slide Show				
9.6.3.5. Print Slides,	• Slide Transitions				
9.6.3.6. Designing of Presentations and Handouts	• Presentation				
9.7 Productivity Tools (Desktop publishing)	9.7.1. Charts, Diagrams and pictures	9.7.1.1. Add charts, diagrams and pictures Edit, resize and crop charts, diagrams and	• Identifying how productivity tools compliment each other	<ul style="list-style-type: none"> • Identifying pre-designed layouts or template for appropriate tasks • Modifying already created 	<ul style="list-style-type: none"> • Entrepreneurship in the use of Desktop publishing. • Effectiveness use of
	9.7.2. Text				

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
			KNOWLEDGE	SKILLS	VALUE
	wrapping 9.7.3. Importing Text 9.7.4. Manipulation of pre-designed templates 9.7.5. Colours and Fonts	pictures 9.7.2.1. Demonstrate how to wrap text around charts, diagrams and pictures 9.7.2.2. Generate frames in which charts, diagrams and pictures are placed 9.7.2.3. Import text from other programs (word processor and spreadsheet) 9.7.2.4. Import charts, diagrams and pictures from other programs 9.7.4.1. Create calendars, notices, fliers, brochures, newsletters, resumes using templates 9.7.5.1. Edit manipulated templates 9.7.5.2. Select colours for the outlines and fill of objects from the palette	<ul style="list-style-type: none"> • Demonstrating wrapping of text around charts, diagrams and pictures • Understanding how to generate charts, diagrams and pictures • Distinguishing between importing and exporting of publications • Differentiating the use of various templates • Modifying created publications • Enhancing objects in a publication through the use fonts and colours 	publications <ul style="list-style-type: none"> • Enhancing objects in publications • Saving and printing previewing publications 	Desktop publishing.
9.8 Networks and the Internet	7.8.1. Networks 7.8.2. The Internet	7.8.2.1. Outline the advantages of group working (Include: shared files, applications and printers) 7.8.2.2. Display understanding of the	<ul style="list-style-type: none"> • Managing of shareable resources (files, applications, and printers) • Distinguishing various types of networks using examples (e.g. 	<ul style="list-style-type: none"> • Sharing resources using sharing facility • Deriving appropriate web addresses from institution/organisation/company names based on services provided (e.g. org, .edu, ac, .co, .gov. etc) 	<ul style="list-style-type: none"> • Reduction in computer hardware and software costs • Sourcing of information from a broader scope • Reduction in communication costs

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
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		<p>network terminologies (Include: local area network (LAN) and Wide area network (WAN), Personal Area Network (PAN), Storage Area Network (SAN), Metropolitan Area Network (MAN), Wi-Fi.).</p> <p>7.8.2.1. Describe the difference between an intranet and an extranet</p> <p>7.8.2.2. Differentiate between World Wide Web and the internet</p> <p>7.8.2.3. Recognise components of a Universal Resource Locator (URL)</p> <p>7.8.2.4. Show how to stop a web page from downloading</p> <p>7.8.2.5. Illustrate how to refresh, move back and forward</p> <p>7.8.2.6. Appreciate various services available on the internet</p>	<p>computer network, cellular network (hotspots), satellite network.)</p> <ul style="list-style-type: none"> • Distinguishing between the two main types of Local Area Networks (Intranets and Extranets) • Relating the World Wide Web (global web pages) to the Internet (technologies, infrastructure and protocols) • The relationship between URL and Internet surfing • Understanding the navigation patterns of web pages • Appreciating the communication and information services provided by the Internet (Include: On-line news, shopping etc.) • Understanding the syntax of email addresses 	<ul style="list-style-type: none"> • Starting, <i>refreshing</i> and terminating web search • <i>Utilising</i> internet communication tools (Skype, twitter, Facebook, • Creating of an <i>email address</i> • <i>Sending</i> and receiving a message through email. 	<p>through email and other free Internet services.</p>
9.9 Multi media files	9.9.1 Digitising images 9.9.2 Video and	9.9.1.1 Create digital images using a scanner and or a digital camera	<ul style="list-style-type: none"> • Creating digital images using 	<ul style="list-style-type: none"> • <i>Creating</i> digital images using scanners and cameras 	<ul style="list-style-type: none"> • <i>Entrepreneurship</i> in the use of multimedia.

TOPIC	SUB TOPIC	SPECIFIC OUTCOME	CONTENT		
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	Audio	9.9.1.2 Edit digitised images 9.8.1.3 Saving created images 9.9.2.1 Record video and audio 9.9.2.2 Save video and audio files	scanners and cameras • Editing and enhancing scanned and digitised images (Include: cropping, enhancing pixels, colour etc) • Saving images with appropriate file extensions • Recording Video and Audio using digital camera and/ or microphone • Naming audio and video files with appropriate file extension • Appreciate the different media file extensions • Understanding the syntax of media file naming	• Editing and enhancing scanned and digitised images • Appropriately saving of file names and file extensions • Recording video and audio using multimedia related technology • Naming audio and video files with appropriate file names and extension.	• Productivity in the use of multimedia. • Efficiency in the use of multimedia. • Inquisitiveness in the use of multimedia.

Grades 8 and 9 Computer Studies Scope and Sequence

The table below shows the coverage of the syllabus in Computer Studies in Grades 8 and 9. It is important for a teacher to refer to this table from time to time to know the knowledge that the learners already have or need to have at various levels of learning of the subject.

TOPIC	GRADE 8	GRADE 9
Introduction to Computer Studies	<ul style="list-style-type: none"> • Parts of a computer • Input-process-output operations 	<ul style="list-style-type: none"> • Peripheral devices • Input-process-output operations
Basic Operations	<ul style="list-style-type: none"> • Health and safety • Care for Computer Systems • Computers and peripherals • Security and Viruses • Types of user interfaces 	<ul style="list-style-type: none"> •
Generic Application Software	<ul style="list-style-type: none"> • Introduction to Windows • Key in and Edit Text • Manipulation and Formatting • Proof Reading • Print Preview and Printing • Saving Files • Drawing Simple Graphics 	<ul style="list-style-type: none"> • Keyboard skills • Document setup and layout • Search and replace • Copying text from other document windows • Pagination • Page formatting • Finding and file retrieval
	<ul style="list-style-type: none"> • Introduction to Spreadsheet • Entering and editing data • Adding Formula • Saving and Printing 	<ul style="list-style-type: none"> • Amending a spread sheet • Formatting cells • Sorting data • Entering and applying formula • Charts

TOPIC	GRADE 8	GRADE 9
	<ul style="list-style-type: none"> • Publishing basics and Features • Pre-designed layouts or Templates • Fonts • Elementary Graphics • Colours and Fonts • Clip art/Re-designed graphics 	<ul style="list-style-type: none"> • Charts, Diagrams and pictures • Text wrapping • Importing Text • Manipulation of pre-designed templates • Colours and Fonts

FINAL DRAFT

TOPIC	GRADE 8	GRADE 9
Networks and the Internet	<ul style="list-style-type: none"> • Rationale of networking computers in different locations. • Difference between Wired and wireless networks • Local area network (LAN), and a Wide area network (WAN) • Uploading and downloading text, image, audio and video files • Searching the web for specific information. • Identifying web browsers as a tool to accessing web pages on the internet • Web browser and the Universal Resource Locator (URL) • Search engines • The email. 	<ul style="list-style-type: none"> • Outline the advantages of group working • Understanding of the network terminologies. • The intranet and an extranet • The World Wide Web and the internet • Components of Universal Resource Locator (URL) • Stopping a web page from downloading • Refreshing, move back and forward • Services available on the Internet.
Systems and Communications	<ul style="list-style-type: none"> • Introduction to multimedia files • Graphics • Video and Audio 	<ul style="list-style-type: none"> • Digitising images • Video and Audio
Computer Application	<ul style="list-style-type: none"> • Household, Entertainment and recreation appliances • Office Equipment • Industrial and Commercial Applications of computers • Computer based learning 	<ul style="list-style-type: none"> • Household appliances • Computer based learning (CBL) • Computers in banking and e-commerce • Point of Sale • Magnetic cards and smart cards
Social and Economic Implications of the use of Computers	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Unresponsive computer • Security and Viruses • Copyright • Storage media