# Information Technology

## Unit 1 – Fundamentals of IT

# Scheme of Work

# (90 GLH)

## Introduction

This outline scheme of work (SOW) is to offer a perspective of how to deliver the Cambridge Technicas in Information Technology. There are many alternatives methods and structures that could be used and therefore it is important to explore different methods of delivering the specification, considering different approaches depending on staffing and expertise within your centre and the resources you have available.

Consideration of how the **theoretical content** of the specification can be covered is best delivered in different ways, through:

* A variety of different teacher resources
* Stimulate discussions
* Group work
* Student activities
* Variety of questions relating to all the different IT topics

Aiming for quality communication and professional standards of work will help to establish the connections between this qualification and real-world practice.

**Overview of Allocation of GLH Per Topic**

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| **Learning Objective** | **Topic** | **GLH** |
| LO1 | Computer Hardware | 3 |
| LO1 | Computer Components | 4 |
| LO1 | Computer Systems | 3 |
| LO1 | Connectivity Methods | 2 |
| LO1 | Communication Hardware | 2 |
| LO1 | Hardware Troubleshooting | 1 |
| LO1 | Units of Measurements | 2 |
| LO1 | Number Systems | 2 |
| LO1 | Number Conversion | 2 |
| Exam Prep | Exam Preparation / Consolidation | 1 |
| Exam Prep | Past Paper Questions | 1 |
| LO2 | Types of Software | 2 |
| LO2 | Application Software | 3 |
| LO2 | Utility Software | 2 |
| LO2 | Operating Systems | 1 |
| LO2 | Communication Methods | 2 |
| LO2 | Software Troubleshooting | 1 |
| LO2 | Protocols | 3 |
| Exam Prep | Exam Preparation / Consolidation | 1 |
| Exam Prep | Past Paper Questions | 1 |
| LO3 | Types of Servers | 2 |
| LO3 | Virtualisation | 2 |
| LO3 | Network Characteristics | 3 |
| LO3 | Connectivity Methods | 2 |
| LO3 | Business Systems | 3 |
| Exam Prep | Exam Preparation / Consolidation | 1 |
| Exam Prep | Past Paper Questions | 1 |
| LO4 | Communication Skills | 2 |
| LO4 | Communication Technology | 2 |
| LO4 | Personal Attributes | 1 |
| LO4 | Ready for Work | 1 |
| LO4 | Job Roles | 2 |
| LO4 | Professional Bodies | 1 |
| LO4 | Industry Certification | 1 |
| Exam Prep | Exam Preparation / Consolidation | 1 |
| Exam Prep | Past Paper Questions | 1 |
| LO5 | Ethical Issues | 2 |
| LO5 | Operational Issues | 3 |
| LO5 | Threats | 3 |
| LO5 | Physical Security | 1 |
| LO5 | Digital Security | 2 |
| LO5 | Safe Disposal of Data and Computing Equipment | 2 |
| Exam Prep | Exam Preparation / Consolidation | 1 |
| Exam Prep | Past Paper Questions | 1 |
| Exam Prep | Past Exam Papers | 10 |

# Scheme of Work in Detail

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| **Week/ Lesson** | **Learning Outcomes and Objectives** | **Unit content to be covered, activities, links to useful resources** |
| **Information Technology Unit 2: Global Information** |
| **3** | **LO1****Computer Hardware*** Students should know about the different types of computer hardware required for a variety of computer systems.
* This should lead into Students developing their understanding of their benefits, limitations and uses.
 | **Unit Content** * Input devices
* Output devices
* Communications devices
* Benefits (e.g. integrated devices make portable devices simpler to use)
* Limitations (e.g. voice recognition performs poorly in noisy environments)
* Uses (e.g. membrane keyboard could be used in harsh physical environments)

**Tasks & Resources*** Students given a list of the different input and output devices and asked to research what they are, and then provide explanations of the uses of the different devices.
* Once the table is completed, they could then be given scenarios for different types and sizes of organisations and select which devices would be most appropriate and then justify the choices they have made.

<https://www.computerhope.com/jargon/c/communication-devices.htm> <https://www.lifewire.com/computer-hardware-2625895><https://www.brainscape.com/flashcards/input-devices-advantages-and-disadvantage-5772994/packs/8784517><https://www.brainscape.com/flashcards/output-devices-advantages-and-disadvantag-5775570/packs/8784517><https://www.ictlounge.com/html/manual_input_devices.htm> |
| **4** | **LO1****Computer Components*** Students should know about the component parts of a computer system and their characteristics.
* This should lead into Students developing their understanding of the purpose of each component.
 | **Unit Content** * Processors
* Motherboards
* Storage (i.e. hard drive, solid state, flash, internal, removable, SAS, SCSI, portable, Cloud)
* Ports (i.e. USB, Firewire, SATA, Network, Fibre Channel)
* Memory (i.e. RAM, ROM, cache)
* Expansion cards (i.e. sound, network, graphics, storage controller, fibre channel)
* Power supplies
* Characteristics
* Purpose

**Tasks & Resources*** Students to research the given component and create a table where they identify and describe the components.
* Students to expand on the tables created to include the characteristics and purpose for each of the components.

<https://www.techwalla.com/articles/different-parts-of-the-computer-and-their-function> |
| **3** | **LO1****Computer Systems*** Students should know about the different types of computer systems.
* This should lead to an understanding of where and how they are used, benefits and limitations of each type of computer system and a justification of a suitable system in a given context.
* Students should be aware that some devices feature embedded systems, such as modern cars, washing machines and other home appliances.
 | **Unit Content** * Desktop/server
* Tablet/hybrid
* Smartphone
* Embedded system/Internet of Things (e.g. cars, home appliances, etc.)
* Mainframe
* Quantum
* Uses (e.g. tablet device can be used when travelling due to physical properties)
* Benefits (e.g. desktop computer can have a large screen which can improve productivity)
* Limitations (e.g. mainframes can be expensive to purchase and maintain)

**Tasks & Resources*** Through a class students are to identify a list of different types of computer systems and describe/ make notes about each ready for the next task.
* Students could work in small groups to prepare a presentation explaining the use of the different computer systems.

<https://study.com/academy/lesson/types-of-computer-systems-in-business.html> |
| **2** | **LO1****Connectivity Methods*** Students should know about different connectivity methods and their characteristics.
* This should lead to an understanding of their purpose and justification of different methods within a given context
 | **Unit Content** * Copper
* Fibre
* Wireless technologies (i.e. Bluetooth, WiFi, microwave, infrared, laser, Satellite, GSM, 3G/4G and future technologies)
* Characteristics
* Purpose

**Tasks & Resources*** Students to create a quiz to match the key words with the correct definitions.

<https://www.comstar.biz/different-types-of-internet-connections/> |
| **2** | **LO1****Communication Hardware*** Students should know about different communications hardware and their characteristics.
* This should lead to an understanding of their purpose and use.
* Students should be aware of the difference between a combined or hybrid device, which often provides the functionality of a modem, router, switch and wireless access point in one device, and the individual devices.
 | **Unit Content** * Hub
* Switch
* Router
* Modem
* Wireless access point
* Combined/hybrid devices
* Characteristics
* Purpose and use

**Tasks & Resources*** Students could be given two sets of flash cards, one with the name of the communication hardware, the second with a description of each of the types of communication hardware.
* Students could be asked to produce an information guide where for each type of communication hardware.

<http://www.teach-ict.com/gcse_new/networks/hardware/miniweb/index.htm> |
| **1** | **LO1****Hardware Troubleshooting*** Students should know about the process needed to troubleshoot common hardware problems as well as the documentation involved.
 | **Unit Content** * Identifying hardware faults
* Troubleshooting tools
* Documentation/fault management

**Tasks & Resources*** Discussion of hardware issues that students have encountered. The tutor could ask students how they resolved the issues. Students could record the issues and how they were resolved. The tutor could ask students what steps they would take next if they could not resolve the issue.

<http://www.gcflearnfree.org/computerbasics/15/print>  |
| **2** | **LO1****Units of Measurements*** Students should know about the units of measurement used in IT.
* This should lead to an understanding of how to convert between the different number systems.
 | **Unit Content** * Bit, nibble, byte
* Metric (i.e. kilo, mega, giga, tera, peta)
* Binary (i.e. kibi, mebi, gibi, tebi, pebi)
* Comparison in sizes between metric and binary measurements. e.g. 1 kilobyte = 1000 bytes vs 1024 bytes

**Tasks & Resources*** Students to think about sizes of memory e.g. 8GB iPhone, 4GB USB memory stick and 32GB SD card and then consider what these have in common.
* Students to investigate and record further units of measurement. Students to use a spreadsheet to record their findings for key measurements.

<http://www.t1shopper.com/tools/calculate/>  |

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| **2** | **LO1****Number Systems*** Students should know about number systems used in IT.
 | **Unit Content** * Binary
* Decimal
* Hexadecimal

**Tasks & Resources*** Students could use this web page to look at number systems
* Tutors could follow up this introduction using ASCII.

[http://code.tutsplus.com/articles/ number-systems-an-introduction-to-binary-hexadecimal-and-more--active-10848](http://code.tutsplus.com/articles/%20number-systems-an-introduction-to-binary-hexadecimal-and-more--active-10848)  |
| **2** | **LO1****Number Conversion*** Students should be able to convert between number systems used in IT.
 | **Unit Content** * converting between binary, decimal and hexadecimal

**Tasks & Resources*** Give Students examples of binary numbers and ask them to convert them into decimal and hexadecimal numbers.

<http://www.teach-ict.com/gcse_new/computer%20systems/storage_units/miniweb/index.htm> |
| **2** | **LO2****Types of Software*** Students should know about different types of software and their characteristics.
* This should lead to an understanding of the use and justification of different types of software within a given context.
 | **Unit Content**

|  |  |
| --- | --- |
| * Open source
* Closed source
* Off the shelf
* Bespoke
 | * Shareware
* Freeware
* Embedded
* Characteristics
* Uses
 |

**Tasks & Resources*** Work in small groups to research the different types of software to include a description of each.
* Create a presentation where they explain the characteristics and use of the different types of computer software using the information they gathered from the previous activity.

<http://opensourcestrategies.blogspot.com/2005/09/freeware-vs-shareware-vs-open-source.html> |
| **3** | **LO2****Applications Software*** Students should know about the different applications software available.
* This should lead to an understanding of the purpose and advantages and disadvantages of each application
 | **Unit Content** * Productivity software (i.e. word processor, spreadsheet, database, email)
* Development tools (i.e. compiler, debugger, translator, integrated design environment)
* Business software (i.e. MIS, multimedia, collaboration, project management, manufacturing, CAD/CAM, publishing, expert systems, healthcare)

**Tasks & Resources*** Work in small groups and produce information about the different productivity software to include what they are and what they do. Then create an information guide on the different types of business software to include what they are and what they do.

<http://www.applicationperformancemanagement.org/software/productivity-software/> |
| **2** | **LO2****Utility Software*** Students should know about the different utility software available.
* This should lead to an understanding of the advantages and disadvantages of each application.
 | **Unit Content** * Purpose
* Advantages and disadvantages

**Tasks & Resources*** Research different types of utility software and make a list of the results of their research.
* Provide students with different contexts and asked to explain the purpose of the utility software for the given context. Students could then add the information from this activity to the list produced in the first activity.

<https://www.typesofeverything.com/types-of-utility-software/> |

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| **1** | **LO2****Operating Systems*** Students should know about different forms of operating systems and their key functions.
* This should lead to an understanding of the benefits and limitations of operating system types.
 | **Unit Content** * Single user/multiuser
* Single processor/multiprocessor
* Off the shelf/open source/bespoke
* Functions
* Benefits and limitations

**Tasks & Resources*** Provided with information on the different types of operating systems and what the terminology means. They could be given a partially completed table which they will need to complete.
* Using the table from the previous activity, students could be asked to work in pairs and partially complete the table to explain the functions for each type of operating system.

<http://www.ftms.edu.my/images/Document/CSCA0201%20-%20Fundamental%20of%20Computing/csca0201_ch06.pdf> |
| **2** | **LO2****Communication Methods*** Students should know about different types of communication methods used within a business context and their characteristics.
* This should lead to an understanding of the purpose, advantages and disadvantages of each method.
 | **Unit Content**

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| * SMS
* Email
* Messaging software
* Social networking/social media
* VoIP
* Personal assistants (e.g. Siri, Cortana)
 | * Teleconference
* Video conference
* Cellular/satellite
* Instant messaging
* Characteristics
* Purpose
* Advantages and disadvantages
 |

**Tasks & Resources*** Students to work in the groups to research the characteristics and purpose of each type of communication method.

<https://www.voipfone.co.uk/What_Is_Voip.php><http://www.dummies.com/consumer-electronics/smartphones/blackberry/what-are-digital-personal-assista><http://www.visionaware.org/info/using-a-computer/comparing-digital-personal-assistants/45><https://searchunifiedcommunications.techtarget.com/definition/teleconference><http://www.tecweb.org/eddevel/edtech/teleconf.html> |
| **1** | **LO2****Software Troubleshooting*** Students should know about common software faults, the tools used to investigate them and the documentation involved.
* This should lead to an understanding of why different trouble shooting tools are used in different contexts and a justification for their use.
 | **Unit Content** * Common faults (i.e. unexpected software behaviour, software freeze, unexpected rebooting)
* Troubleshooting tools to investigate a problem (i.e. logs, installable tools, baselines)
* Documentation (i.e. types of documentation)

**Tasks & Resources*** Asking the friendly school technicians/network manager to deliver a session on common faults, the use of troubleshooting tools and the documentation used.

<https://www.toptenreviews.com/5-common-computer-problems-and-solutions> |
| **3** | **LO2****Protocols*** Students should know about protocols and their features.
* This should lead to an understanding of the purpose of protocols and their common usage in given contexts.
* Students should be aware of the TCP/IP protocol stack including common functions in each layer.
 | **Unit Content** * popular protocols
	+ IP (Internet Protocol)
	+ TCP (Transmission Control Protocol)
	+ UDP (User Data Protocol)
	+ SMTP (Simple Mail Transfer Protocol)
	+ FTP (File Transfer Protocol) o HTTP (Hyper Text Transfer Protocol)
	+ SNMP (Simple Network Management Protocol)
	+ ICMP (Internet Control Message Protocol)
	+ POP (Post Office Protocol)
* Features
* Purpose
* Common usage scenarios

**Tasks & Resources*** Students to research the different protocols listed in the teaching content and prepare a table which includes the features of each protocol as well as what each one is.
* Students to work in small groups to extend their tables to include the features, purposes and uses of the different protocols.

<https://searchnetworking.techtarget.com/definition/protocol> |
| **2** | **LO3****Types of Servers*** Students should know about different types of server.
 | **Unit Content** * File/print
* Application
* Database
* Web
* Mail
* Hypervisor

**Tasks & Resources*** Students to work in the groups to research the characteristics and purpose of each type of server.

<https://techspirited.com/different-types-of-servers> |
| **2** | **LO3****Virtualisation*** Students should know about different forms of virtualisation.
* This should lead to an understanding of the benefits and limitations to a business of using virtualisation technology.
 | **Unit Content** * Server
* Client
* Storage
* Cloud
* Hybrid
* Benefits and limitations

**Tasks & Resources*** Students to work in small groups to research each type of virtualisation and provide a description of what each one is.

<https://www.networkworld.com/article/3234795/what-is-virtualization-definition-virtual-machine-hypervisor.html> |
| 3 | **LO3****Networking characteristics*** Students should know about different networking topologies and their characteristics.
* This should lead to an understanding of the use and justification of a particular topology in a given context.
 | **Unit Content** * Peer to peer
* Client server (i.e. DNS)
* Bus/star/ring/mesh
* Addressing (i.e. default gateway, IP address, subnet mask)
* Diagrammatical representation
* Linking to given context

**Tasks & Resources*** Students could be provided with diagrammatical representations of each of the topologies listed in the teaching content and then through a formal teaching and learning session, annotate their diagrams.
* Students to use the same diagrammatical representations for the network topologies and annotate them further to include the uses of the different topologies.

<https://www.webopedia.com/quick_ref/topologies.asp> |
| 2 | **LO3****Connectivity methods*** Students should know about different connectivity methods and their characteristics.
* This should lead to an understanding of the purpose of the different methods and how these would be used in a given context.
 | **Unit Content** * LAN (i.e. Ethernet, Token Ring)
* WAN (i.e. ADSL, leased line, ISDN)
* MAN
* Voice (i.e. PSTN, cellular)
* Satellite (i.e. voice, data)
* Characteristics
* Purpose

**Tasks & Resources*** Students to be given a list of connectivity methods from the teaching content of the unit and asked to produce a presentation to include a description for each connectivity method.

<https://www.lifewire.com/types-of-network-connections-4059835> |
| 3 | **LO3****Business Systems*** Students should know about different business systems.
* This should lead to an understanding of the purpose, and of the benefits and limitations of these systems in a given context.
 | **Unit Content** * MIS (Management Information System)
* CRM (Customer Relationship Management)
* SOP (Sales Ordering Process, Standard Operating Procedures)
* Helpdesk
* Purpose
* Benefits and limitations

**Tasks & Resources*** For each of the business systems, students could be asked to research the benefits and limitations of each type of business system and create a document with the results of their research.

<https://www.leanmethods.com/resources/articles/what-business-system-and-why-do-you-need-one/> |
| 2 | **LO4****Communication Skills*** Students should know about the different communication skills used in the IT environment and the potential barriers involved.
* This should lead to an understanding of the different skills used for different audiences and situations.
 | **Unit Content** * Interpersonal skills (i.e. eye contact, body language)
* Questioning techniques
* Verbal (i.e. meetings, telephone, group discussions)
* Written (i.e. reports, letters, emails, social networking)
* Non-verbal (i.e. body language)
* Barriers (i.e. language, distraction, noise, lack of concentration)
* Appropriate use of language (i.e. formal, informal, technical, non-technical)

**Tasks & Resources*** Students to identify different communication methods. For each of the identified communication skills, then to write down the barriers for each.

<https://www.skillsyouneed.com/ips/communication-skills.html> |
| 2 | **LO4****Communication technology*** Students should know about different communication technologies available.
* This should lead to an understanding of the use and justification of different communication technologies in a given context.
 | **Unit Content** * Presentation software
* Word processing
* Email
* Web
* Blogs/vlogs
* Instant messaging

**Tasks & Resources*** Divide the class into teams and have a quiz where students are asked to identify different communication technologies as identified in the teaching content of the unit.
* Extended the quiz and provided with a range of contexts and asked to state which communication technology could be used.

<https://searchunifiedcommunications.techtarget.com/definition/instant-messaging><https://tubularinsights.com/blogging-vs-vlogging/> |
| 1 | **LO4****Personal Attributes*** Students should know about different personal attributes.
* This should lead to an understanding of why these attributes are important for certain job roles and valued by an employer.
 | **Unit Content** * Self-motivation
* Leadership
* Respect
* Dependability
* Punctuality
* Problem solving
* Determination
* Independence
* Time management
* Team working
* Written numerical and verbal skills
* Planning and organisation skills

**Tasks & Resources*** Students to be provided with a list of personal attributes in a table where they are asked to complete the column where they describe each one.

<https://tubularinsights.com/blogging-vs-vlogging/> |
| 1 | **LO4****Ready for Work*** Students should know about being ready for work.
* This should lead to an understanding of why this is important for themselves as well as the organisation.
 | **Unit Content** * Dress (i.e. appropriate clothing depending on situation)
* Presentation (i.e. personal grooming, appearance etc.)
* Attitude (i.e. can do attitude, responsive)

**Tasks & Resources*** Students to write a short report on what it means to be ready for work.

<https://www.prospects.ac.uk/job-profiles/browse-sector/information-technology> |
| 2 | **LO4****Job Roles*** Students should know about different job roles in the IT industry.
* This should lead to an understanding of the skills required.
* Students should know about different professional bodies and industry certification.
 | **Unit Content** * Network manager
* IT technician
* Programmer
* Web designer
* Animator
* Key skills required for each (i.e. technical and non technical)

**Tasks & Resources**Students could be provided with a list of job roles as identified in the teaching content for the unit and research the different job roles. They could be asked to produce an information leaflet where they describe: • what the job role is • the type of activities that would be carried out • the type of businesses where these jobs would be found.The Students could be asked to create a table where they identify the technical and non-technical skills required for each of the job roles.<https://www.prospects.ac.uk/job-profiles/browse-sector/information-technology><https://targetpostgrad.com/subjects/computer-science-and-it><https://www.robertwalters.co.uk/career-advice/top-10-career-change-it-roles.html>  |

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| 1 | **LO4****Professional Bodies*** This should lead to an understanding of the purpose of professional bodies, and the benefits and limitations of membership to themselves and an employer.
 | **Unit Content** * Purpose
* Benefits and limitations

**Tasks & Resources**Students could be asked to research the different professional bodies there are for the IT industry and make a list with the following information: • the name of the professional body • the IT sector it relates to. This could then be extended to research the purpose of each of the professional bodies they have identified in the list and then to prepare an information leaflet. Students could extend their information leaflet to include the benefits and limitations of membership to employees and the companies they work for.<https://targetpostgrad.com/subjects/computer-science-and-it/professional-it-and-computing-bodies><http://www.directoryoftheprofessions.co.uk/sites-professions-IT-comp.html> |
| 1 | **LO4****Industry Certification*** This should lead to an understanding of the purpose of professional bodies, and the benefits and limitations of membership to themselves and an employer.
* This should also lead to an understanding of why it is useful to gain industry certification and the benefits to themselves and an employer.
 | **Unit Content** * Benefits to individual and employer
* Current vendors (e.g. CompTia ®, Cisco ®)

**Tasks & Resources**Students could be asked to compile a list of vendors who offer industry certification for the IT industry. Through a class discussion, the students could agree a “Top 10” list of industry certification vendors e.g. CompTIA, CISCO, Microsoft etc.<http://www.gocertify.com/certifications/vendor-list.html><https://www.pluralsight.com/blog/it-ops/it-certification-101><https://www.pcworld.com/article/209227/it_certifications_that_matter_for_helpdesk_tech_support_pros.html>  |
| 2 | **LO5****Ethical Issues*** Students should know about different ethical issues.
* This should lead to an understanding of how these issues can be addressed.
 | **Unit Content** * Whistle blowing
* Disability/gender/sexuality discrimination
* Use of information
* Codes of practice
* Staying safe online
* Bias

**Tasks & Resources**Through a group discussion, the students could agree a definition for the term “ethical issues associated with IT and computer systems”. This could follow on with students being asked to research different ethical issues that can arise and explain what they are. The bullet points from the teaching content can be used as a starting point.<https://www.useoftechnology.com/5-ethical-challenges-information-technology/><http://smallbusiness.chron.com/ethical-dilemma-use-information-technology-18366.html><https://www.computerworld.com/article/2557944/security0/ethical-issues-for-it-security-professionals><http://wkcbizzmichael.blogspot.co.uk/2014/01/legalethical-and-operational-issues-of.html>  |
| 3 | **LO5****Operational Issues*** Students should know about different operational issues.
* This should lead to an understanding of how these issues can be addressed.
 | **Unit Content** * Security of information
* Health and safety
* Disaster planning and recovery
* Organisational policies (i.e. acceptable use policy, code of conduct, etc.)
* Change management
* Scale of change:
	+ Drivers (i.e. change in business practice, legislation, competition)
	+ Needs (i.e. improved networking, remote access for employees)

**Tasks & Resources**Students could be given the list of operational issues identified from the teaching content and during a group discussion, consider how these operational issues relate to the ethical issues they previously researched. There will be links between some of them. They could then create a table where they list the operational issues, describe what each issue is and where appropriate, link the ethical issue.<http://operationalissues.blogspot.co.uk/><http://wkcbizzmichael.blogspot.co.uk/2014/01/legalethical-and-operational-issues-of.html> |
| 3 | **LO5****Threats*** Students should know about different threats to computer systems.
 | **Unit Content** * Phishing
* Hacking
* Virus
* Trojan
* Interception
* Eavesdropping
* Data theft
* Social engineering

**Tasks & Resources**Students could be provided with a list of threats as identified in the teaching content and then work in small groups to research what each type of threat is. Each small group could present their findings to the main group.<https://www.getcybersafe.gc.ca/cnt/rsks/cmmn-thrts-en.aspx><http://code.tutsplus.com/articles/number-systems-an-introduction-to-binary-hexadecimal-and-more--active-10848><https://www.securityweek.com/virus-threats><https://www.hq.nasa.gov/security/it_threats_vulnerabilities.htm> |

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| 1 | **LO5****Physical Security*** Students should know about physical security methods and their characteristics.
* This should lead to an understanding of why different security methods are used in different contexts and a justification for their use
 | **Unit Content** * Locks
* Biometrics
* RFID
* Tokens
* Privacy screens
* Shredding
* Characteristic

**Tasks & Resources**Students could work in small groups and using the list of physical security methods from the teaching content research different types of physical security. They could be asked to create an information guide which can be shared with the rest of the class.A class discussion could be facilitated by the teacher to consider the characteristics of different physical security methods. The teacher could then discuss scenarios and let the students justify the use of different physical security methods.<https://www.techrepublic.com/blog/10-things/10-physical-security-measures-every-organization-should-take/><http://www.teach-ict.com/as_a2_ict_new/ocr/AS_G061/317_role_impact_ict/ict_crime/miniweb/pg5.htm><https://searchsecurity.techtarget.com/definition/physical-security><https://protectivesecurity.govt.nz/physical-security/physical-security-of-your-ict-assets-and-facilities/><https://electronics.howstuffworks.com/gadgets/high-tech-gadgets/rfid.htm>  |

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| 2 | **LO5****Digital Security*** Students should know about digital security methods and their characteristics.
* This should lead to an understanding of why different security methods are used in different contexts and a justification for their use
 | **Unit Content** * Anti-virus
* Firewalls
* Anti-spyware
* Username/passwords
* Permissions
* Encryption
* Characteristics

**Tasks & Resources**Students could be set the task of creating a table with the list of digital security methods as identified in the teaching content. They could be asked to include a column where they describe what each method is and a column where they identify the characteristics of each.The Students could then be provided with a number of scenarios where they have to select which digital security methods could be used and provide a justification as to why these methods are the most appropriate to use.<https://www.youtube.com/watch?v=xZq2e1NcgPw><https://www.professormesser.com/free-a-plus-training/220-902/digital-security-prevention-methods/> <http://www.cram.com/flashcards/digital-security-prevention-methods-8013761> |
| 2 | **LO5****Safe disposal of data and computer equipment*** Students should know about the legislation when disposing computer equipment.
* This should lead to an understanding of how information can be safely wiped from a computer.
 | **Unit Content*** Legislation
* Overwrite data
* Electromagnetic wipe
* Physical destruction

**Tasks & Resources**Students could be asked to research the legislation associated with the safe disposal of data and computer equipment. They could develop an information guide which can be shared with other members of the class.<https://www.it-trading.co.uk/content/legal_obligations.htm><http://www.it-green.co.uk/legislation.html><http://www.recycling-guide.org.uk/materials/computers.html> [Https://www.researchgate.net/publication/253314119\_Working\_principle\_of\_an\_Electromagnetic\_wiping\_sy](https://www.researchgate.net/publication/253314119_Working_principle_of_an_Electromagnetic_wiping_sy) <https://www.cnet.com/news/the-right-way-to-destroy-an-old-hard-drive/>  |

## Feedback

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