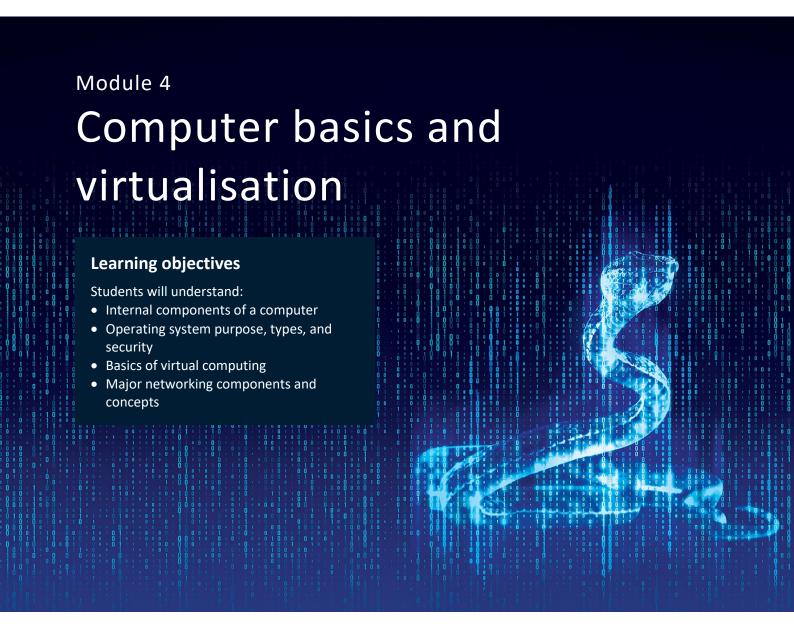


Module 4

Student workbook







Presented by

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Common hardware / BIOS vulnerabilities

Define the following terms and the role that each has in modern computing. Include the full name for any acronyms or initialisms:

Operating system
BIOS
Motherboard
RAM
GUI
Find a real-world example of the following vulnerabilities being used to exploit a system:
Backdoors
Environmental concerns
BIOS malware
RAM malware

Operating systems

Identify the operating system that you use on your current computer or device:

For each of the following, what actions do you or the operating system, take to reduce vulnerabilities?

Passwords

File access/permissions

System patch

Software application
Taking stock of the software

S e applications you use. How many can you identify? Are they all up to date? Are there any that you do not use anymore that you could uninstall? Research if there are any that you could install to improve your system:

Virtual Machine

Define the following terms as they relate to Virtual Machines:		
Guest		
Host		
Image		
Hypervisor		
Complete an advantages and disadvantages table for Virtual Machines.		
Include security benefits (advantages) and concerns (disadvantages).		

Advantages of Virtual Machines	Disadvantages of Virtual Machines

Networking Describe the roles of each of the following components in a network: Server Switch Router **Firewall** Identify a potential vulnerability below and the steps to take to defend against exploits: **Wireless Access Points User access Emails Incorrectly configured Firewalls**

Information moving through a network (network traffic)

Case study — Wannacry ransomware

In May 2017, a worldwide cyber-attack occurred affecting more than 200 000 computers in 150 countries with damages ranging from hundreds of millions to billions of dollars.

What Operating system did this ransomware affect?
What vulnerability did it exploit?
Microsoft had already released a patch for exploit. Why did the attack work despite this patch?
Wannacry was a ransomware crypto worm. Describe how this kind of malware works?
How can you ensure that your business is protected against this type of exploit in the future?

Learning reflections

Computer components and common vulnerabilities

My understanding of computer hardware and BIOS and their common vulnerabilities.

Needs more work

Completely confident

Operating systems

My understanding of my operating system's purpose, type, and security levels.

Needs more work

Completely confident

Virtual computing

My ability to use VMWare and a virtual computing images.

Needs more work

Completely confident

Networking

My understanding of fundamental networking components and the vulnerabilities of each.

Needs more work

Completely confident