Lecture 6.

The Internet

SEM II, AY2022/2023

Issues in ICT

1.Health and safety issues
2. Environmental Issues

1. Health and safety issues

- **The impact of ICT on society**
- ICT has changed our lives greatly in recent years.
- We can communicate easily and shop online
- but there are potential health and safety risks associated with the use of computers.

1. Health issues

Working with computers for long periods of time can cause many different kinds of health problems...
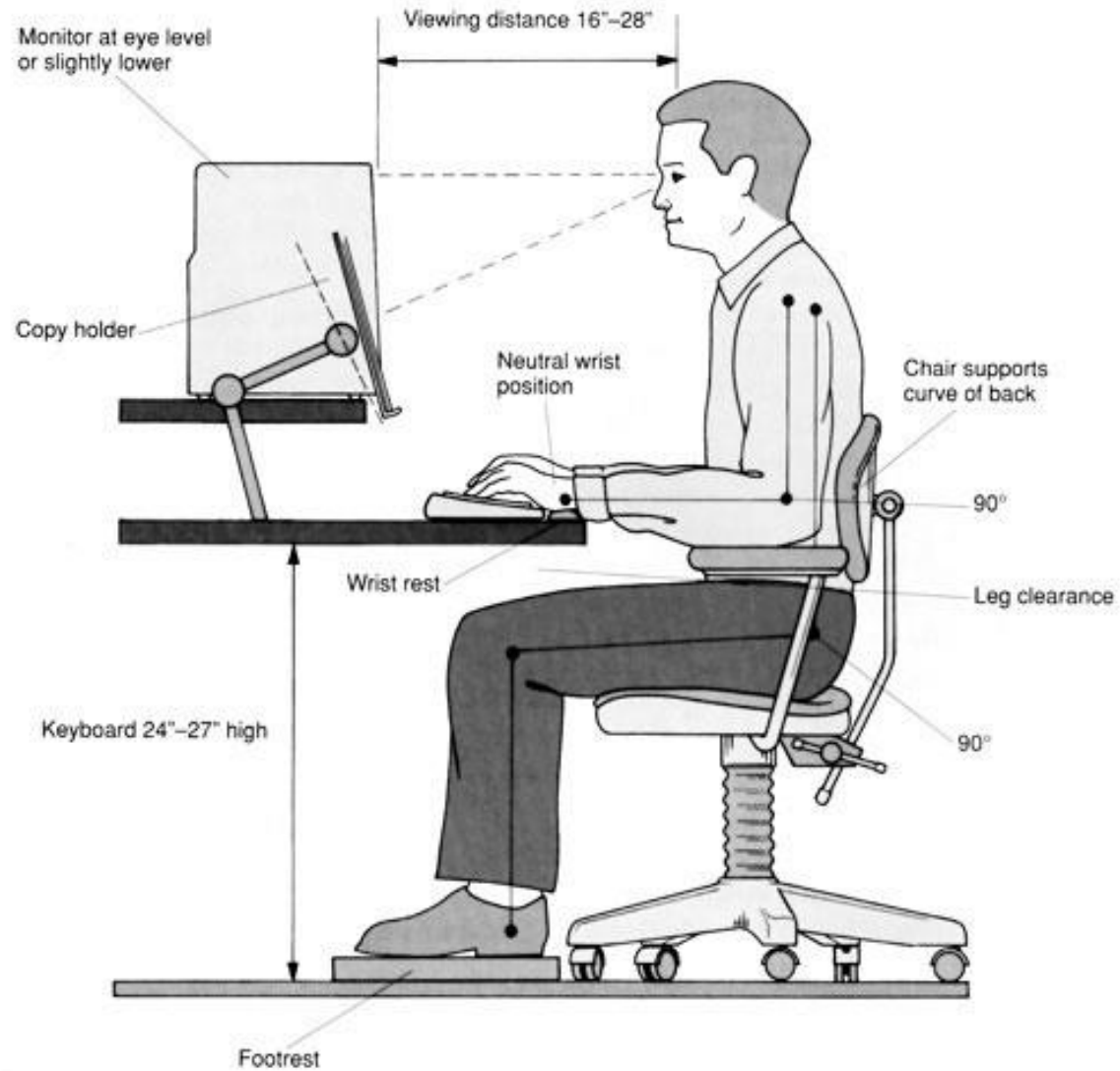
- Back Problems.

- Eyestrain.

- Repetitive Strain Injury (RSI)

1.1: Understanding Health issues in the computing environment

What is Health and Safety in ICT?

a. Health and Safety in ICT (Information and Communications Technology) refers to how to work safely with computers and environments with lots of technology equipment.

b. Working at a computer for long periods of time can cause health risks.

c. Some of the common hazards include; poor postures, incorrect chairs, glare or poor lighting, trip hazards, installation hazards, cyber bullying and identity theft

d. These can lead to negative impact on health and safety including stress and ill health among others

Understanding Health issues in the computing environment

Monitor at eye level or slightly lower

Viewing distance 16"–28"

Copy holder

Neutral wrist position

Chair supports curve of back

90°

Wrist rest

Leg clearance

Keyboard 24"–27" high

90°

Footrest

1.2: Negative impact of Health issues

1.2.1: Incorrect use of ICT devices for a long time can cause health problems. These include;

a. *Repetitive Strain Injury (RSI):* This condition causes painful swelling of the wrist and fingers.

b. *Back and Neck Strain:* This health condition causes great pain and really affect the quality of ones life.

c. *Eye Strain and Headaches:* Staring at a computer screen for too long can strain your eyes and cause headaches

a) Repetitive Strain Injury (RSI)

RSI is caused by doing the same small movements over and over again across a long period of time;
1. Typing on a computer for too long.
2. Using a mouse for long periods.
3. Holding the mouse incorrectly.
4. Working in a cramped workspace.

b)   Back and Neck Strain

This is caused by sitting incorrectly and using poor quality chairs without back rests. This is called poor posture Typing on a computer for too long.

More specifically, it is caused by;

1.   Working in a cramped workspace.
2.   Not sitting upright in your chair.
3.   Incorrect positioning of the computer screen.

c)   Eye Strain and Headaches

Common causes of eye strain are <u>screen flicker</u> and having **direct light** causing screen glare.

Specific causes include;
1.   Staring at a computer screen for a long time.
2.   Working in a room with bad lighting.
3.   Using a computer screen with glare or flickers.
4.   Dirt on the screen.

Repetitive Strain Injury (RSI)

Repetitive Strain Injury (RSI) can be minimized by;

1. Taking breaks to rest your hands.
2. Using an ergonomic keyboard/mouse.
3. Arranging your workspace so you are not cramped.
4. Using a wrist rest.

Back and Neck Strain

Back and Neck Strain can be minimized by;

1. Taking regular breaks to stretch your body.
2. Use adjustable chairs so you can sit in a position suitable for your height.
3. Siting upright against the back rest.
4. Tilting the computer screen so it is set just below your eye level.
5. Keeping your feet flat on the floor.

Eye Strain and Headaches

Eye Strain and Headaches can be minimized by;

1. Taking regular breaks (every hour or so).
2. Using LCD screens rather than CRT as they have less flicker.
3. Using an anti-glare screen.
4. Ensuring that room lighting is good with no direct light causing glare on the screen.
5. Keeping the screen clean of dirt.
6. Having eyes tested regularly.

Understanding Safety issues in the computing environment

Includes Internet safety or online safety or cyber safety and E-Safety. It refers to the act of being safe on the internet.
It is about creating awareness on; personal safety, internet based security risks to private information and self-protection from computer crime.

Negative impact of safety issues

The negative impacts relates to **information security** and **personal identity**

Information security

Refers to unauthorized access and usage of private information and identity may result in consequences such as identity theft, as well as theft of property.

Common information security breaches include;

- **Phishing:** is a type of scam where the scammers disguise themselves as trustworthy source in an attempt to obtain private information such as passwords, credit card information, etc. through the internet.

- **Malware and Spyware:** is malicious software designed to collect and transmit private information, such as passwords, without the user's consent or knowledge.

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Personal safety

- Common threats to personal safety include phishing, internet scams, malware, cyberstalking, cyberbullying, online predators, and sextortion.

- **Cyberstalking:** is the use of electronic means such as instant messaging, social media, e-mail and other forms of online communication with the intent to abuse, intimidate, or overpower an individual or group.

- This is one of the major personal safety concerns among the youth and children

Personal safety

- **Online predation:** is the act of engaging an underage minor in inappropriate sexual relationships through the internet.
- **Online grooming:** is when a stranger targets a child by befriending them and gaining their trust and then manipulate the child to engage in illegalities
- **Obscene/offensive content:** is when websites display content material that some deem offensive, distasteful or explicit. This may be inform of pop-up ads and unsuspecting links
- **Sextortion:** is when a victim is persuaded to undress in front of a webcam, and engage in sexual behaviour, such as masturbation. The video is recorded by the cybercriminal, who then threatening to publicly release the video and send it to family members and friends of the victim if they do not comply.

How to minimize safety effects of ICT?

Everyone in the modern digital environment needs to be aware of internet safety guidelines.

1. Keep sensitive information private

2. Keep your privacy settings on

3. Practice safe browsing

4. Make sure your internet connection is secure

5. Use a secure VPN connection

How to minimize safety effects of ICT?

6. Be careful what you download/view

7. Choose strong passwords

8. Make online purchases from secure sites

9. Be careful what you share/text or engage with

10. Keep your antivirus program/apps updated

11. Backup your data regularly

12. Use two-factor authentication

13. Avoid unknown/random online links

14. Use trusted devices only

15. Keep software and operating systems up-to-date

How to minimize safety effects of ICT?

16. Review your privacy settings and understand privacy policies
17. Be careful where you click
18. Close accounts that you don't use
19. Change your passwords regularly
20. Never share your passwords with anyone
21. Don't let your browser remember your login details
22. Share content on social media thoughtfully
23. Double check before you enter personal information
24. Watch out for financial scams
25. Whenever in doubt, call support

2. Environmental Issues

Group assignment:

The assignment should be done in a group of maximum three (3) members.

a) Describe environmental issues associated with ICT

b) Explain the positive and negative impact of ICT on the environment

c) Explain common strategies for reducing the impact of ICTs on environment

2.1: Understanding the environmental issues in ICT

2.2: Positive and negative impact of ICT on the environment

2.3: How to reduce the impact of ICT in the environment