

IT Essentials for Health Managers

Course 1: Introduction to Basic PC Care and Maintenance

Subtopic 1.1: Importance of Regular Maintenance

Importance of Regular Maintenance

Regular maintenance of your computer is essential for keeping it running smoothly and efficiently. Here are some key reasons why regular maintenance is crucial:

1. **Prevents Slowdowns:** Over time, computers can get cluttered with unnecessary files and programs. Regular maintenance helps clear these out, preventing your PC from becoming slow.
2. **Avoids Crashes:** Keeping your computer in good shape can help you avoid unexpected crashes and freezes, resulting in fewer interruptions while you work.
3. **Saves Money:** Regular maintenance can prevent serious problems that might be costly to fix, saving you from expensive repairs or the need to buy a new computer.
4. **Protects Your Data:** Regular maintenance includes backing up your files, ensuring that your important data is safe in case something goes wrong with your PC.

Impact on Performance and Longevity

Taking good care of your computer not only improves its daily performance but also extends its lifespan. Here's how regular maintenance impacts performance and longevity:

1. **Improved Performance:**
 - **Faster Speed:** Regular tasks like cleaning up your hard drive and removing unnecessary programs can significantly improve your computer's speed.
 - **Better Functionality:** Keeping your software up to date and running regular scans for viruses and malware ensures that all your programs work as they should.
2. **Extended Longevity:**
 - **Reduced Wear and Tear:** A well-maintained computer experiences less wear and tear, meaning its components don't wear out as quickly.

- **Longer Lifespan:** A computer free from dust, malware, and clutter is likely to last many years longer than one that isn't maintained, giving you more value from your investment.

3. Consistent Reliability:

- **Fewer Errors:** Regular maintenance helps catch small issues before they become big problems, making your computer more reliable.
- **Better User Experience:** With fewer slowdowns, crashes, and other issues, you'll find using your computer to be a more pleasant and productive experience.

In summary, regular maintenance is crucial for keeping your computer running well and ensuring it lasts as long as possible. It's a simple but powerful way to get the best performance and value from your PC.

Subtopic 1.2: Useful Software Tools and Restore Points

Essential Software

Several software tools can help you keep your computer running smoothly. Here are some essential ones:

1. OpenShell - Windows Start Menu

- **Purpose:** OpenShell helps you customize the Start Menu on your Windows computer, making it easier to find and organize your programs.
- **Benefit:** It gives you a familiar, user-friendly start menu, which can improve your productivity.

2. CCleaner

- **Purpose:** CCleaner cleans up unnecessary files and junk from your computer.
- **Benefit:** By removing these files, CCleaner helps your computer run faster and frees up valuable storage space.

3. MalwareBytes

- **Purpose:** MalwareBytes scans your computer for malware and other harmful software.
- **Benefit:** It helps protect your computer from viruses and keeps your data safe.

4. File Recovery: Recuva

- **Purpose:** Recuva helps you recover deleted files.
- **Benefit:** If you accidentally delete important files, Recuva can help you get them back.

5. 7-Zip: Archiving

- **Purpose:** 7-Zip compresses files into smaller sizes and decompresses archived files.
- **Benefit:** This saves space on your computer and makes it easier to share large files.

6. MS Office Alternatives: LibreOffice & OnlyOffice

- **Purpose:** These are free alternatives to Microsoft Office, offering tools like word processing, spreadsheets, and presentations.
- **Benefit:** They provide similar functionality to MS Office without the cost.

7. Thunderbird – Mail Client

- **Purpose:** Thunderbird is an email client that helps you manage your emails.
- **Benefit:** It provides a simple and organized way to handle multiple email accounts in one place.

8. Zoom – Video Calls

- **Purpose:** Zoom allows you to make video calls and hold online meetings.
- **Benefit:** It's useful for remote work, online learning, and staying in touch with others.

Creating System Restore Points

A system restore point is like a snapshot of your computer's settings and files at a particular moment. Here's why and how to create them:

1. What is a Restore Point?

- **Definition:** A restore point is a saved state of your computer's system files and settings.
- **Purpose:** It allows you to return your computer to that state if something goes wrong, such as after installing a bad update or software.

2. Setting Up Restore Points

○ Steps to Create a Restore Point:

1. **Open System Protection:** Click on the Start Menu, type "Create a restore point," and select the matching result.
2. **Select Your Drive:** In the System Properties window, select the drive you want to protect (usually the C: drive) and click "Configure."
3. **Turn On System Protection:** Ensure that system protection is turned on, then click "OK."
4. **Create the Restore Point:** Click "Create," give your restore point a name (like the date or a description), and click "Create" again. Wait for the process to complete.

Creating restore points regularly, especially before making major changes to your system, helps ensure that you can easily revert to a stable state if something goes wrong. This simple practice can save you a lot of trouble and keep your computer running smoothly.

Subtopic 1.3: PC Security: Anti-virus (AVG, MalwareBytes, & Smadav)

Basics of Antivirus Software

Antivirus software is a program designed to detect and remove harmful software (malware) from your computer. Here are some basic things to know:

1. What is Malware?

- **Definition:** Malware is any software designed to harm your computer or steal your information. This includes viruses, spyware, and ransomware.
- **Purpose:** Antivirus software protects your computer from these threats by identifying and removing them.

2. How Antivirus Software Works

- **Scanning:** The antivirus scans your computer for any suspicious files or programs.
- **Real-time Protection:** It continuously monitors your computer for threats.
- **Updates:** The antivirus updates regularly to recognize new types of malware.

Installing and Updating AVG and Smadav

To keep your computer safe, it's important to install and update your antivirus software. Here's how to do it for AVG and Smadav:

1. Installing AVG

- **Download:** Go to the AVG website and download the free version of the antivirus software.
- **Install:** Open the downloaded file and follow the on-screen instructions to install AVG on your computer.
- **Initial Setup:** Once installed, AVG will guide you through the initial setup process, including running your first scan.

2. Updating AVG

- **Automatic Updates:** AVG typically updates automatically. Make sure this feature is turned on.
- **Manual Updates:** You can also update AVG manually by opening the program, going to the "Menu," and selecting "Settings" > "Update."

3. Installing Smadav

- **Download:** Visit the Smadav website and download the free version of the antivirus software.
- **Install:** Open the downloaded file and follow the installation instructions.
- **Initial Setup:** After installation, Smadav will perform an initial scan to check for any threats.

4. Updating Smadav

- **Automatic Updates:** Ensure that automatic updates are enabled so that Smadav stays up to date.
- **Manual Updates:** To update manually, open Smadav, go to the "Update" tab, and click on "Check for Updates."

Scheduling Scans and Understanding Results

Regular scans are crucial for maintaining your computer's security. Here's how to schedule scans and understand the results:

1. Scheduling Scans in AVG

- **Open AVG:** Launch the AVG application.
- **Go to Scans:** Click on "Menu," then "Scans."

- **Schedule Scan:** Choose "Schedule Scan" and set the frequency (daily, weekly, etc.) and the time for the scan to run.
- **Save:** Confirm and save your settings.

2. Scheduling Scans in Smadav

- **Open Smadav:** Launch the Smadav application.
- **Navigate to Scan:** Go to the "Scan" tab.
- **Schedule Scan:** Set the desired schedule for automatic scans.
- **Save:** Confirm and save the schedule.

3. Understanding Scan Results

- **No Threats Found:** If no threats are found, your computer is safe at the moment.
- **Threats Detected:** If threats are detected, the antivirus will list them and provide options to remove or quarantine them.
- **Action:** Follow the antivirus prompts to remove or quarantine any detected threats.

By understanding and using antivirus software like AVG and Smadav, you can protect your computer from harmful software and keep your data safe. Regular updates and scans are key to maintaining a secure system.

Subtopic 1.4: Basic Backup of Files

Best Practices for Data Backup

Backing up your files is crucial to ensure you don't lose important data. Here are some best practices:

1. **Regular Backups:** Backup your files regularly to minimize data loss. Aim for at least weekly backups, or more often if you frequently update important files.
2. **Multiple Copies:** Keep multiple copies of your backups in different locations. For example, use both an external hard drive and cloud storage.
3. **Automate:** Use software to automate your backups. This ensures you don't forget to do it manually.
4. **Test Backups:** Periodically test your backups to make sure they can be restored successfully. There's no point in having a backup if it doesn't work when you need it.

Methods for Backup

There are several methods for backing up your files. Here are a few common ones:

1. USB Flash Drives

- **Pros:** Portable, easy to use, and relatively inexpensive.
- **Cons:** Limited storage capacity compared to other options.
- **How to Use:** Copy and paste important files onto the USB drive. Label the drive to keep track of what's stored on it.

2. External Hard Drives

- **Pros:** Larger storage capacity, good for full system backups.
- **Cons:** More expensive than USB flash drives, can be damaged if dropped.
- **How to Use:** Use backup software to copy your files onto the external hard drive. Schedule regular backups.

3. Network Drives

- **Pros:** Accessible from multiple devices on the same network, good for collaborative environments.
- **Cons:** Requires network setup, more expensive.
- **How to Use:** Map the network drive to your computer and set up regular backups to it using backup software.

4. Cloud Storage

- **Pros:** Accessible from anywhere with an internet connection, secure, automatic syncing.
- **Cons:** Requires a subscription for larger storage, dependent on internet access.
- **How to Use:** Sign up for a cloud storage service (like Google Drive, Dropbox, or OneDrive) and upload your files. Use the service's software to automate backups.

By following these best practices and using the backup methods that work best for you, you can ensure your important data is safe and recoverable in case of an emergency.

Subtopic 1.5: Basic Troubleshooting

Common PC Issues

Understanding common PC issues is the first step in troubleshooting. Here are some issues you might encounter:

1. Slow Performance

- Causes: Too many programs running, lack of disk space, malware.

2. Freezing or Crashing

- Causes: Software conflicts, overheating, hardware failures.

3. Internet Connectivity Issues

- Causes: Router/modem problems, ISP issues, network settings.

4. Software Errors

- Causes: Corrupted files, incompatible software, bugs.

5. Hardware Problems

- Causes: Faulty components, loose connections, physical damage.

Troubleshooting Steps

When facing PC issues, try these steps before seeking professional help:

1. Restart Your Computer

- Often resolves temporary issues.

2. Check Connections

- Ensure all cables are properly connected.

3. Close Unnecessary Programs

- Free up system resources.

4. Update Software

- Ensure your OS and applications are up to date.

5. Run a Virus Scan

- Use antivirus software to check for malware.

6. Check for Error Messages

- Note any error messages and look up potential solutions.

7. Free Up Disk Space

- Delete unnecessary files and programs.

8. Check Task Manager

- Identify and close resource-hogging processes.

9. Run Troubleshooters

- Use built-in troubleshooters in your operating system.

10. Restore Your System

- Use a system restore point to revert to a stable state.

When to Seek Professional Help

Sometimes professional assistance is necessary. Seek help in these scenarios:

1. Persistent Problems

- Issues that don't resolve after basic troubleshooting.

2. Hardware Issues

- Problems with physical components like the hard drive, RAM, or motherboard.

3. Data Recovery

- Need to recover lost or corrupted data.

4. Virus Infections

- Severe malware infections that antivirus software can't remove.

5. Network Issues

- Complex networking problems that affect connectivity.

6. Upgrades and Installations

- Installing new hardware or major software upgrades.

Summary and Practical Exercises

Summary

In this lesson, we've covered the basics of PC care and maintenance. Key points include:

1. **Importance of Regular Maintenance:** Prevents slowdowns, crashes, and data loss, saving you money and extending your computer's lifespan.
2. **Essential Software Tools:** Tools like CCleaner, MalwareBytes, and LibreOffice can help keep your computer clean and efficient.
3. **Creating Restore Points:** System restore points can save you from trouble by allowing you to revert to a stable state.
4. **PC Security:** Using antivirus software like AVG and Smadav protects your computer from malware.
5. **Backing Up Files:** Regular backups using methods like USB drives, external hard drives, network drives, and cloud storage ensure your data is safe.

Practical Exercises

1. **Creating a Restore Point**
 - Follow the steps provided to create a system restore point on your computer.
2. **Installing Antivirus Software**
 - Download and install AVG or Smadav on your computer.
 - Run an initial scan and set up regular scanning schedules.
3. **Performing a Backup**
 - Choose a backup method (USB drive, external hard drive, network drive, or cloud storage).
 - Backup your important files and ensure the backup is complete.

By completing these exercises, you'll practice essential skills for maintaining and protecting your computer, helping ensure it runs smoothly and your data stays safe.