



STAFF DETAIL



Standard 1

Introduction to the Digital Computer

Objective 1

- Understand the input/output, processing and storage of data in a personal computer system.
- Identify and label the five parts of computer system. (input, output, storage, memory, processing)
- Explain the function of each of the parts of a computer system.
- List examples of each of the parts of the computer system.

Objective 2

- Understand the basic components of a modern computer system.
- Understand how hardware components function on a computer.
- Explain the function of firmware as a computer component.
- Explain the function of software on a computer.
- Understand the purpose and function of power on a computer.

Objective 3

Understand hardware: parts, functions, handling, safety, assembly, and troubleshooting.

List basic hardware components. (motherboard, hard drive, memory, processor, power supply, expansion slot, etc.)

- Describe functions of basic components of a computer system. (Processor, Motherboard, RAM/ROM, Hard Drive, Input/Output Adaptors and Removable Storage Devices.)
- Demonstrate proper handling and safety considerations for hardware components.
- Assemble and disassemble parts of a computer system.
- Follow the basic troubleshooting steps for solving problems with a personal computer system. (1. Identify the problem, 2. Establish a idea of probable cause, 3. Test your idea, 4. Plan of action to implement the solution, 5. Verify solution worked, 6. Document your findings, actions, and outcomes.)

Objective 4

Understand the basic functions of a computer operating system.

Identify different common OS's, (Windows, Mac OS, Linux, etc.)

- List the functions of an operating system. (Controls hardware, controls software, controls GUI, file-system.)
- Understand the difference between a GUI OS and the command line of an OS.
- Understand the history of OS's on a personal computer.

Objective 5

Understand basic kinds and uses of application software.

- Identify the uses of application software. (Word processor, spreadsheet, presentation, accounting, database, digital media editors, accounting, development, etc.)
- Identify different sources and licensing of software. (commercial, open source, freeware, shareware, creative commons, etc.)

Objective 6

Understand introduced to careers and educational options in technical support.

- Explore certifications in Information Support and Services.
- Explore education and work experience that can lead to IT careers.

Standard 2

Interactive Media

Objective 1

Understand the different types of media included in an interactive multimedia project.

- Understand and use text
- Understand and use graphics
- Understand and use audio
- Understand and use video
- Understand and use animation

Objective 2

Utilize fonts in interactive projects.

- Change a font family, size, and color.
- Identify serif, and sans serif fonts.

Objective 3

Obtain, create, and edit Presentations

- Obtain graphics from clipart or photo collections.
- Scan photos and/or take photos with a digital camera.
- Use software to draw and edit a bitmap and a vector drawing.
- Animate the objects.
- Displaying the slide show with and without transition.
- Set up show.

Objective 4

Obtain, create, and edit digital audio.

- Capture digital audio from a CD, record, or tape.
- Obtain digital audio from royalty free sources. (Soundzabound, etc.)
- Record, edit, and export digital audio.
- Understand the use and importance of audio in digital media productions.
- Understand and identify different audio formats. (WAV, AAC, mp3, wma, ogg, m4a, etc.)

Objective 5

Obtain, create, and/or edit digital video.

- Edit or render a digital video from photos or video clips.
- Understand and identify different video formats & codecs. (mov, wmv, m4a, mp4, H.264, etc.)
- User or embed video in a document or presentation.

Objective 6

Use interactive software to create and implement an interactive project from a plan. (Software used could include: PowerPoint, Presentations, Google Presentations, OpenOffice Presentations, etc.)

- Include in the project: audio, animation, graphics and navigation links for user input.
- Create or prepare assets for the project.
- Build the project.
- Evaluated the project by testing and debugging it.
- Publish or distribute the project.

Objective 7

Create web pages using a GUI HTML editor. (Dreamweaver, Microsoft Web Expressions, Kompozer, NVU, etc.)

- Include a main page with links to other pages,
- Include a page with a table.
- Include a page with bullets or a numbered list.
- Include photos or graphics in at least one page.
- Use CSS to change fonts, colors, layout, etc.

Objective 8

Explore to careers and educational options in interactive media and Web development.

- Understand different career options in digital & interactive media.
- Identify different specialties or team members that can be involved in a project.

Standard 3

Programming, Software Development & Database Concept

Objective 1

Understand the uses of programming concepts in the development of software applications.

- Identify and describe kinds of developed software. (Generic, custom, etc.)
- Identify and describe levels of programming languages. (low level, mid level, high level, 4GL)
- Describe the difference between interpreted and compiled languages.
- Identify basic kinds of programming. (spaghetti, modular, procedure, object oriented programming (OOP), etc.)

Objective 2

Understand the process to software/program design.

Follow software design steps. (1. State the problem, 2. Develop an algorithm or solutions, 3. Code the project, 4. Test & debug the project, 5. Provide internal & external document.)

Use walk through steps to see all the steps to describe a problem solution.

Design a flowchart to solve a basic problem.

Develop an algorithm to solve a simple problem.

Understand how UML is used in OOP.

Objective 3

- Use a software design process to plan a software program.
- Understand and use programming conventions. (indentation, capitalization, etc.)
- Understand and in a program use: variables, data types, constants, calculations, operators, decisions, loops, functions, etc.
- Design the screen layout for a software program.
- Understand how GUI software development environments are used.
- Design and develop a software program that gets input, processes the data, and displays output.

Objective 4

Create a web pages using XHTML & Cascading Style Sheets (CSS).

- Understand the basic parts of HTML syntax. (tags, attributes, values)
- Understand the W3C standards for XHTML web pages.
- Understand how CSS is used for formatting web pages.
- Create web pages using a text editor, XHTML standards, and CSS.
- Understand and use scripting to create interactive web pages.

Objective 5

Students will be introduced to careers and educational options in computer programming and software engineering.

- Explore education and work experience that can lead to careers in Software Development.
- Identify Software Development career opportunities. (programmer, system analyst, etc.).

Objective 6

Students will understand the basic concepts of databases, their use, and development.

- Introduction to database.
- Introduction to DBMS & RDBMS.
- Working with SQL – Use of DDL, DML, DCL and TCL commands.
- Use of database with front-end application.