



## Web Design 1

### **Semester A Summary:**

The Web Design A course has 40 lessons. The student is introduced to website design and development by learning the basic website design principles. Topics include networking, audience analysis, internet security, project management, and website navigation. Students will apply the principles to design and evaluate their own websites and the sites of others. Students will learn development languages such HTML and CSS. Throughout the course, students will complete practice activities, homework assignments and projects that allow them to apply the skills they have learned.

### Semester A Outline

#### **1. Introduction to Computing and Networking**

##### 1. Introduction: Computing and Networking

- analyze how virtualization works for operating systems
- compare and contrast network topologies
- compare, evaluate, and implement the use of wired versus wireless access
- conceptualize an idea for a futuristic technology based on current technical trends
- define virtualization
- demonstrate proficiency in and appropriate use and navigation of local area networks (LANs)
- demonstrate proper digital etiquette and knowledge of acceptable-use policies
- describe open/closed source file formats
- discuss ideas for a futuristic technology based on current technical trends
- evaluate advantages and disadvantages of open/closed source file formats and software
- evaluate and determine the appropriate use of open/closed source file formats and software
- evaluate the advantages and disadvantages of open/closed source file formats
- explain the concept of virtualization for classrooms
- explain the concept of virtualization for operating systems
- identify operating systems and software applications used for website development
- identify the different types of software licensing for web development
- identify the four main types of network topologies
- identify the parts of a computer and explain its functions implement a variety of security tools and techniques to protect your computer and your personal information
- investigate, choose, and implement electronic security methods to protect your files, personal information, and a web server from unauthorized access

- optimize web information for fast download such as dial-up and high speed Internet and mobile devices
- use guidelines to identify the authority, validity and currency of a website

2. Components of a Computer System
3. Networking
4. Wide Area Networks
5. Network Topologies
6. Bandwidth and Internet Service Providers
7. Navigating on a Local Area Network
8. Virtualization
9. Web Development Software

## 2. **The Internet, Websites, and Digital Communication**

1. Introduction: Websites and Digital Comm. Tools
  - Analyze and implement the proper and acceptable use of digital, or virtual, communications technologies
  - Analyze, examine, assess, and decide on a web host and a domain name
  - Compare dynamic websites to static websites
  - Conduct appropriate advanced search strategies in the acquisition of information from the Internet
  - Define and describe dynamic and static websites
  - Differentiate between the Internet and the World Wide Web
  - Identify the various parts of a URL
  - Investigate, choose, and implement electronic security methods to protect your files, personal information, and a web server from unauthorized access
  - Recognize the negative impact of inappropriate technology use on different kinds of websites that may lead to online bullying and harassment
  - Use guidelines to identify the authority, validity, and currency of a website
  - Use the basic functions on an Internet browser
2. The Internet
3. Websites
4. Using Websites
5. Internet Security
6. Websites and Digital Communication Tools
7. Collaboration for Website Development
8. Setting up a Website

## 3. **Website Planning and Design**

1. Introduction: Website Planning and Design
  - Identify the four stages of website development
  - Describe some considerations designers have when developing interfaces
  - Read, use, and develop technical documents
  - Utilize a project management checklist to evaluate and apply the principles of project management
  - Evaluate job duties, group dynamics, and communication for a website design project
  - Evaluate the accessibility and usability of an original website as it relates to a target audience
  - Analyze and follow timelines needed to create, edit, and present original work
  - Explain why audience analysis is important in website design
  - Describe everything you must consider in an audience analysis
  - Describe and discuss the various types of navigational structures used on websites

- Evaluate effective design guidelines for reliable websites
- Describe the seven main considerations to keep in mind when designing a website

2. What is Project Management?
3. The Project Lifecycle
4. Project Management and the Web Development Process
5. Technical Writing
6. Interface Design
7. Audience Analysis
8. Navigation
9. Designing for the Web
10. Color
11. Color on the Web
12. Accessibility
13. Marketing a Website
14. Legal and Ethical Website Marketing Practices

4. **Basic HTML and Cascading Style Sheets**
  1. Introduction: Basic HTML & Cascading Style Sheets
    - create a simple web page using basic HTML code
    - open and edit an HTML document
    - explain why formatting, capitalization, and spacing are important when writing HTML
    - describe concerns about HTML formatting
    - identify the three main tags that identify an HTML page
    - identify the most common HTML tags and how they are written
    - explain what attributes are in HTML
    - use attributes to define specific characteristics of various elements on an HTML page
    - create ordered and unordered lists using HTML
    - use HTML code to create an ordered list that starts with a specific number other than the number 1
    - use HTML code to create unordered lists that use a variety of bullet types
    - create a simple table using HTML
    - use attributes to define specific table characteristics in HTML
    - create space, signs, and symbols in HTML using entities
    - format an HTML page using CSS
    - create file and folder naming conventions to follow established guidelines, including spacing and special characters
    - define virtual private networking (VPN)
    - describe how a VPN connection can be used to store website files
    - describe the benefits of using a VPN connection for website design
    - identify how a VPN client connects to the server
  2. Managing Website Files and Folders
  3. Introduction to HTML
  4. Formatting and Structuring HTML
  5. Basic Tags
  6. Attributes
  7. Lists
  8. Tables
  9. Entities
  10. Cascading Style Sheets (CSS)
  11. Naming and Storing Website Files

12. Virtual Private Networking

13. Using FTP to Upload Files

## **Semester B Summary:**

Students learn basic website design principles and development languages such as HTML and CSS. Topics include networking, audience, analysis, Internet security, project management, and website navigation. Students utilize the programs GIMP for image editing and Nvu for web development.

## **Semester B Outline**

### **1. Basics of HTML**

#### 1. Introduction: Basic HTML & Cascading Style Sheets

- create a simple web page using basic HTML code
- open and edit an HTML document
- explain why formatting, capitalization, and spacing are important when writing HTML
- describe concerns about HTML formatting
- identify the three main tags that identify an HTML page
- identify the most common HTML tags and how they are written
- explain what attributes are in HTML
- use attributes to define specific characteristics of various elements on an HTML page
- create ordered and unordered lists using HTML
- use HTML code to create an ordered list that starts with a specific number other than the number 1
- use HTML code to create unordered lists that use a variety of bullet types
- create a simple table using HTML
- use attributes to define specific table characteristics in HTML
- create space, signs, and symbols in HTML using entities
- format an HTML page using CSS
- create file and folder naming conventions to follow established guidelines, including spacing and special characters
- define virtual private networking (VPN)
- describe how a VPN connection can be used to store website files
- describe the benefits of using a VPN connection for website design
- identify how a VPN client connects to the server

#### 2. Files that Make Up a Website

#### 3. Setting Up a Website

#### 4. HTML Basics

#### 5. Attributes and Lists

#### 6. Tables and Entities

#### 7. Cascading Style Sheets (CSS)

#### 8. Naming and Storing Website Files

#### 9. Virtual Private Networking

#### 10. Web Development Software

### **2. Introduction to JavaScript**

#### 1. Introduction: JavaScript

- explain in your own words what JavaScript is and why and how it is used
- define object, property, and method
- define event and event handler

- define variable, value, and string value
- label various parts in a line of script written with dot syntax
- add comments to the script on a web page
- script a comparison in JavaScript
- define a variable in JavaScript
- script a conditional statement in JavaScript
- explain in your own words what a comparison is used for in JavaScript
- explain in your own words what a conditional is used for in JavaScript

2. Introduction to JavaScript
3. Comparisons and Conditionals
4. JavaScript Functions
5. Checking if JavaScript is Enabled
6. Working with Date and Time
7. Creating Active Images with JavaScript
8. Creating Interactive Buttons with JavaScript

### **3. Website Images and Video**

1. Introduction: Website Images and Video
  - Name the various image file types that are compatible with the Web
  - Define resolution
  - State what size an image should be for use on the Web
  - Define rollover
  - Define image map
  - Explain the copyright laws that apply to the use of images on the Web
  - Create a new Web-friendly graphic using GIMP
  - Edit a photograph using GIMP
  - Use the basic tools in GIMP to edit a graphic
  - Use GIMP to crop an image
  - Create, evaluate, and use web-based animation
  - Use a video camera, smartphone camera, or screencasting app to create a short video
  - Edit a video using Windows® Movie Maker or Apple iMovie
  - Save a video using appropriate file formats
  - Produce and export a video
2. Images on the Web
3. Image Formats
4. Creating Images for the Web
5. Taking Great Photos
6. Using a Scanner and External Drive
7. Using Video in Web Development
8. Animation on the Web
9. Copyright
10. Introduction to GIMP
11. GIMP - Basic Tools
12. GIMP - Editing an Image
13. GIMP - Creating an Image

### **4. Using Nvu**

1. Introduction: Using Nvu
  - construct a simple Web site using Nvu
  - describe the benefits of using the site functions to maintain a Web site
  - use the basic tools in Nvu to format a Web page, format text, create tables, insert hyperlinks, and insert lists
  - create a CSS file using Nvu

- insert rollovers onto a Web page
- insert an image map onto a Web page

2. Introduction to Nvu
3. Nvu-Basic Tools
4. CSS in Nvu
5. Nvu-Publishing Your Site