

The York River Academy

Binder



THE YORK RIVER ACADEMY BINDER

Table of Contents

6-05

A+ Computer Repair/Cabling I

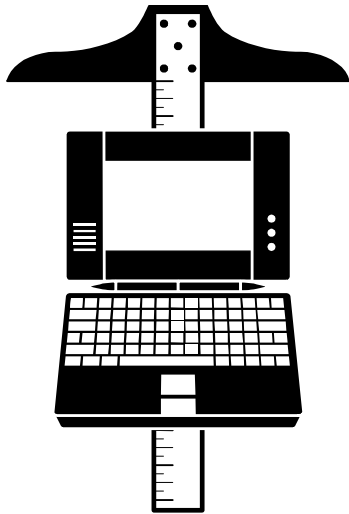
A+ Computer Repair/Cabling II

Web Design I

Web Design II

Curriculum Guide

*A+ Computer Repair/
Cabling I*



A+ Computer Repair/Cabling I

Content Outline

Topic	Competency	Suggested Time Frame
I. INTRODUCTION AND OVERVIEW A. Lab Rules and Safety B. A+ Program Overview C. Outside Resources D. Computer Ethics Introduction E. Related Skills F. Personal Communication Skills	1-7	3 block/ 6 single periods/ Ongoing
II. HOW COMPUTERS WORK A. Introduction to Hardware B. Introduction to Software	1, 4-8	4 blocks/ 8 single periods
III. HOW SOFTWARE AND HARDWARE WORK TOGETHER A. The Boot Process B. How Software Manages Hardware Resources C. Protecting Data, Software and Hardware	1, 4-7	4 blocks/ 8 single periods
IV. THE SYSTEM BOARD A. The System Clock B. The CPU and Chip Set C. ROM BIOS D. RAM E. Buses and Expansion Slots F. Hardware Configuration	9-15	8 blocks/ 16 single periods
V. UNDERSTANDING AND MANAGING MEMORY A. Physical Memory B. Managing Memory with DOS C. Managing Memory with Windows 9x D. Windows NT and Windows 2000 E. Memory Management Troubleshooting Guidelines F. Upgrading Memory	16-26	6 blocks/ 12 single periods
VI. FLOPPY DRIVES A. How Data is Physically Stored on a Disk B. Exchanging and Supporting Floppy Drives C. Removable Drives	27-33	3 blocks/ 6 single periods

Topic	Competency	Suggested Time Frame
VII. HARD DRIVES A. Hard Drive Technology B. Hard Drive Organization and Data Storage C. Operating System Commands to Manage a Hard Drive D. Optimizing a Hard Drive	34-38	3 blocks/ 6 single periods
VIII. HARD DRIVE INSTALLATION AND SUPPORT A. Installing a Hard Drive B. Troubleshooting Hard Drives and Data Recovery C. Hard Drive Troubleshooting Guidelines	39-42	3 blocks/ 6 single periods
IX. ELECTRICITY AND POWER SUPPLIES A. Introduction to Basic Electricity B. Measuring the Voltage of a Power Supply C. Problems with the Power Supply D. Energy Star Computers E. Surge Protection and Battery Backup	43-52	6 blocks/ 12 single periods
X. TROUBLESHOOTING FUNDAMENTALS A. Troubleshooting Perspectives B. Troubleshooting Tools C. Isolating Computer Problems and Devising a Course of Action D. Troubleshooting Guidelines	53-59	5 blocks/ 10 single periods
XI. AN OVERVIEW OF CABLES AND INFRASTRUCTURE A. Structured Cabling Standards B. Warranties	60-62	5 blocks/ 10 single periods
XII. FIBER OPTICS A. Fiber Optic Basics B. Cable Management Overview	63-66	5 blocks/ 10 single periods
XIII. COPPER INSTRUCTION SHEETS A. TX Mini-Jack B. Pan Punch Connectors C. Tower System D. Punchdown System E. Giga-Punch F. Punch Down Tools G. RCA and S-Video Modular Jack	67-71	3 blocks/ 6 single periods

Topic	Competency	Suggested Time Frame
XIV. OUTLET INSTRUCTION SHEETS A. Types of Mountings B. International Installations	72-76	5 blocks/ 10 single periods
XV. FLOOR AND CEILING INSTRUCTION SHEETS A. Port Under Floor Box B. Mini Wall Mount Enclosure C. In-Ceiling Zone Cabling Termination Box D. Zone Cabling Under Floor Enclosures	77-80	5 blocks/ 10 single periods
XVI. FIBER INSTRUCTION SHEETS A. Multimode Prepolished Crimp B. Optical Fiber Connector C. Singlemode "FJ-Style" Fiber Optic Connector D. Multimode "FJ-Style" Fiber Optic Connector E. Fanout Kit F. Furcation Kit G. Fiber Spool	81-84	5 blocks/ 10 single periods
XVII. FIBER ENCLOSURE INSTRUCTION SHEETS A. Fiber Optic/Multimedia Interconnect Tray B. Enclosures C. Modular Patch Panel D. Pre-Wired Tray and Drawer E. Pre-Terminated Fiber Optic Cassettes F. Enhanced Fiber-Optic Enclosure G. Fiber Adapter Patch Panel 1 & 2 RU for Use with Tray H. Cable Management	85-92	5 blocks/ 10 single periods
XVIII. RACK SYSTEM INSTRUCTION SHEETS A. Cable Management Panels and Racks B. Public Network Fiber-Optic Vertical Slack Manager C. Public Network Fiber-Optic Troughs D. Fiber-Optic Cable Management Rack End Cap E. Telecommunications Rack End Cap E. HD Cable Management	93-98	5 blocks/ 10 single periods

Topic	Competency	Suggested Time Frame
XIX. RACEWAY JUNCTION BOXES INSTRUCTION SHEETS A. Pan-Way 1 Gang Low Voltage Junction Box B. Keystone Snap-On Faceplates C. Intermediate Junction Box D. Faceplates E. Two Gang Deep Junction Box F. Two Gang Shallow Junction Box/2 Gang Faceplates G. Surface Mount Junction Box H. Extension Junction Box	99-104	2 blocks/ 4 single periods
XX. MULTI-CHANNEL RACEWAY INSTRUCTION SHEETS A. T-70 Fittings and Raceways B. Transition Bend Radius C. Twin 70 Transition Fitting D. Entrance End Fittings and Faceplates E. Type T-45 Surface Raceway TG Raceway System F. TG-70 3 Sided Hanging Box with Divider Wall G. TG Fittings H. Drop Ceiling/ Entrance End Fitting	105-110	5 blocks/ 10 single periods

A+ Computer Repair/Cabling I

Competencies

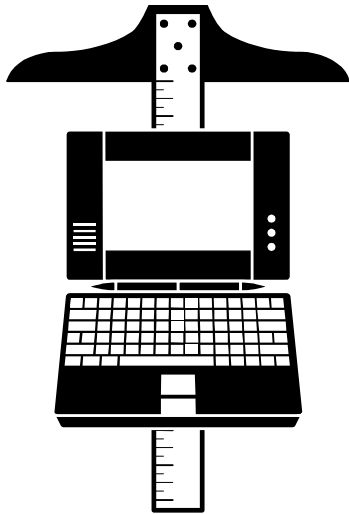
1. The student will demonstrate lab safety.
2. The student will explain A+ certification.
3. The student will find outside networking information sources.
4. The student will demonstrate ethical behavior in a computer network environment.
5. The student will develop interpersonal communication skills.
6. The student will write legible reports and communications.
7. The student will demonstrate knowledge of computers in general.
8. The student will demonstrate knowledge of basic computer hardware.
9. The student will identify the various types of system boards.
10. The student will observe and discuss the functions of the system clock.
11. The student will label the parts of the system board including the CPU and the chip set.
12. The student will identify the ROM bios and demonstrate knowledge of its function.
13. The student will compare and contrast RAM and ROM.
14. The student will label the buses and expansion slots found on the system board.
15. The student will develop an understanding of basic hardware configuration.
16. The student will compare ROM and RAM on the system board.
17. The student will compare and contrast physical memory and memory addresses.
18. The student will discuss virtual memory and its function.
19. The student will understand how memory is managed.
20. The student will understand the use of HIMEM.SYS and EMM386.EXE and how it relates to memory management.
21. The student will compare and contrast real mode and virtual real mode and how it relates to managing memory in Windows 9x.
22. The student will observe the function of Swap file in Windows 9x.
23. The student will develop an understanding of Windows NT and 2000 and how it is used in business, education, and personal computing.
24. The student will discuss the process of upgrading memory in a computer system.
25. The student will research various methods for upgrading memory.
26. The student will install additional memory.
27. The student will develop an understanding of how data is stored on a disk.
28. The student will compare and contrast physical storage and logical storage.
29. The student will observe the formatting process.
30. The student will use DOS to manage a floppy disk.
31. The student will diagnose various problems with floppy drives.
32. The student will make repairs to floppy drives.
33. The student will install a removable drive.
34. The student will develop an understanding of IDE, EIDE, and SCSI technology, as well as other types of interfaces.
35. The student will record the logical organization of hard drives.
36. The student will identify hard drive partitions and logical drives.
37. The student will use DOS and Windows 9x to manage hard drives.
38. The student will develop an understanding of various tools available for optimizing hard drive space.
39. The student will describe the proper procedures for installing a hard drive.
40. The student will install a hard drive.

41. The student will use a variety of diagnostic tools to troubleshoot problems with a hard drive and recover data.
42. The student will identify various troubleshooting techniques used in repairing a myriad of hard drive situations.
43. The student will develop an understanding of basic electricity.
44. The student will compare and contrast volts, amps, ohms, and watts.
45. The student will discuss the relationship between voltage, current, and resistance.
46. The student will develop an understanding of AC and DC current.
47. The student will identify hot, neutral, and ground wires and receptacles.
48. The student will use a multimeter to measure the voltage of a power supply.
49. The student will develop an understanding of the power supply including the possible dangers, and upgrades.
50. The student will identify troubleshooting techniques for resolving problems with a power supply.
51. The student will identify surge suppressors, power conditioners, and uninterruptible power supplies.
52. The student will identify the different types of fire extinguishers.
53. The student will create a bootable rescue disk.
54. The student will use diagnostic software.
55. The student will use virus detection software.
56. The student will develop an understanding of fundamental troubleshooting guidelines and be able to devise a course of action.
57. The student will troubleshoot the power supply, the system board, operating system, and hard drives.
58. The student will troubleshoot problems after the computer boots.
59. The student will troubleshoot problems with the keyboard, monitor, and printers.
60. The student will develop an understanding of the different types of cables and their uses.
61. The student will identify the various types of cables available on the market.
62. The student will compare and contrast the various types of cables available.
63. The student will develop an understanding of the basic design and function of Fiber Optic cabling.
64. The student will compare and contrast copper and fiber optic cabling.
65. The student will develop an understanding of the physics involved in fiber optics.
66. The student will develop an understanding of the standards and requirements for installing fiber optic cabling.
67. The student will be able to create and terminate Cat 5 cable.
68. The student will compare and contrast copper and fiber optic cabling with Cat 5 cable.
69. The student will develop an understanding of the use of Cat 5 cable.
70. The student will develop an understanding of the standards and requirements for installing Cat 5 cabling.
71. The student will be able to properly use punch down tools to make and install Cat 5 cable in a work environment.
72. The student will be able to position and install faceplates for Herman Miller Furniture.
73. The student will be able to install angled furniture faceplates.
74. The student will develop an understanding of the different types of faceplates and mount boxes available on the market today
75. The student will develop an understanding of the standards and requirements for installing the various types of faceplates and mount boxes.
76. The student will develop an understanding of the standards and requirements for international installations.
77. The student will be able to install cabling under a floor box.

78. The student will be able to install mini wall mount enclosures.
79. The student will develop an understanding of the in-ceiling zone cabling termination box.
80. The student will develop an understanding of the standards and requirements for installing cable under floor enclosures.
81. The student will be able to effectively use a multimode prepolished crimp.
82. The student will be able to effectively use an optical fiber connector.
83. The student will develop an understanding of the differences between a singlemode and multimode FJ-Style Fiber Optic Connector.
84. The student will be able to use a fanout kit, a furcation kit and a fiber spool to work with fiber optic cables.
85. The student will be able to install a fiber optic/multimedia interconnect tray.
86. The student will be able to effectively use an enhanced fiber optic enclosure.
87. The student will be able to effectively use a fiber optic splice tray enclosure.
88. The student will develop an understanding of the use of under floor fiber optic enclosures.
89. The student will develop an understanding of the use of a modular patch panel.
90. The student will be able to use a pre-wired tray and drawer.
91. The student will develop an understanding of the use of pre-terminated fiber optic cassettes.
92. The student will develop an understanding of cable management.
93. The student will be able to install horizontal panels and racks.
94. The student will develop an understanding of the standards and requirements for installing cables.
95. The student will be able to install telecommunication racks and accessories.
96. The student will develop an understanding of the use of public network fiber-optic vertical slack manager and fiber-optic troughs.
97. The student will develop an understanding of the use of a modular patch panel.
98. The student will develop an understanding of HD cable management, HD Fiber-Optic Troughs, HD Enhanced Fiber-Optic Enclosures and HD Splice Tray Enclosures.
99. The student will be able to install a Pan-Way 1 Gang Low Voltage Junction Box.
100. The student will be able to use Keystone Snap-On Faceplates and an intermediate junction box.
101. The student will compare and contrast the various types of faceplates.
102. The student will compare and contrast two gang deep junction boxes and two gang shallow junction boxes.
103. The student will develop an understanding of the use of a surface mount junction box.
104. The student will develop an understanding of the use of the extension junction box.
105. The student will be able to use T-70 fittings and raceways.
106. The student will compare and contrast the use of transition bend radius and twin 70 transition fitting.
107. The student will develop an understanding of the use of entrance end fittings and faceplates.
108. The student will be able to use type T-45 surface raceway TG raceway systems.
109. The student will develop an understanding of the use of TG-70 3 sided handing boxes with divider walls.
110. The student will develop an understanding of TG fittings and drop ceiling entrance end fittings.

Curriculum Guide

*A+ Computer Repair/
Cabling II*



A+ Computer Repair/Cabling II

Content Outline

Topic	Competency	Suggested Time Frame
I. REVIEW/OVERVIEW HARDWARE/SOFTWARE A. Lab Rules and Safety B. Review Hardware and Software C. Review Troubleshooting Guidelines D. Computer Ethics Review	1, 4, 7, 8	10 block/ 20 single periods/ Ongoing
II. SUPPORTING I/O DEVICES A. Basic Principles of Peripheral Installations B. Using Ports and Expansion Slots for Add-on Devices C. SCSI Devices D. Keyboard E. Pointing Devices F. Computer Video	111-121	8 blocks/ 16 single periods
III. MULTIMEDIA TECHNOLOGY A. The Right Tools for the Job B. Multimedia on a PC C. Devices Supporting Multimedia	122-128	6 blocks/ 12 single periods
IV. SUPPORTING WINDOWS 9X A. Differences between Windows 3x and DOS B. Differences between Windows 98 and 95 C. Loading and Running Windows 9x D. Installing and Configuring Windows 9x E. Plug and Play and Hardware Installations F. Supporting Applications Software with Windows 9x G. Monitoring System Performance H. Windows ME I. Support from Microsoft	129-139	10 blocks/ 20 single periods
V. UNDERSTANDING AND SUPPORTING WINDOWS NT WORKSTATION A. Windows NT vs. Windows 9x B. Windows NT Environment and Architecture C. Installing and Customizing Windows NT D. Supporting Windows NT and Applications E. Windows NT Registry F. Installing Software and Hardware G. Windows NT Diagnostic Tools	140-151	5 blocks/ 10 single periods

Topic	Competency	Suggested Time Frame
VI. SUPPORTING WINDOWS 2000 PROFESSIONAL A. Suite of Operating Systems B. Comparing Windows 2000 to Windows NT and Windows 98 C. Installing Windows 2000 Professional D. Troubleshooting Problems with Windows 2000	152-159	6 blocks/ 12 single periods
VII. PURCHASING A PC OR BUILDING YOUR OWN A. Selecting a Personal Computer to Meet Your Needs B. Preparing to Build Your Own PC C. Building a Personal Computer, Step by Step D. Jumper free System Board Installation	160-165	8 blocks/ 16 single periods
VIII. NETWORKING FUNDAMENTALS AND THE INTERNET A. Communication Layers B. An Overview of Networking C. Networking Hardware D. Networking Software Overview E. PCs and the Internet F. Troubleshooting Guidelines	166-172	10 blocks/ 20 single periods
IX. PRINTERS AND NOTEBOOK COMPUTERS A. Printers B. Notebook Computers	173-179	4 blocks/ 8 single periods
X. COMPUTER MAINTENANCE A. Preventive Maintenance B. Viruses and Other Computer Infestations C. Backups and Fault Tolerance	180-185	5 blocks/ 10 single periods
XI. THE PROFESSIONAL PC TECHNICIAN A. Customer Service B. Record keeping and Information Tools C. Professional Organizations and Certifications D. Keeping up with technology E. Protecting Software Copyrights	186-193	4 blocks/ 8 single periods
XII. CERTIFICATION TEST PREPARATION	All	14 blocks/ 28 single periods

A+ Computer Repair/Cabling II

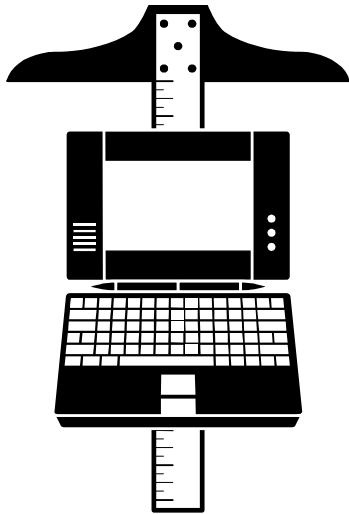
Competencies

111. The student will compare and contrast serial and parallel ports
112. The student will examine a General-Purpose I/O Card
113. The student will identify a USB port and develop an understanding of the port and applicable peripherals.
114. The student will develop an understanding of IEEE 1394 ports.
115. The student will compare and contrast PCI, ISA, EISA, and AGP Expansion slots.
116. The student will troubleshoot device installation problems.
117. The student will match the Host Adapter to the SCSI Device it supports.
118. The student will compare and contrast the different types of keyboards and their connectors.
119. The student will properly clean a mouse and identify a variety of pointing devices available.
120. The student will identify the various types of monitors available.
121. The student will develop an understanding of video cards and video memory.
122. The student will become familiar with the various hardware and software available for multimedia functions.
123. The student will develop an understanding of multimedia fundamentals and how technology is evolving to meet an ever changing market.
124. The student will compare and contrast CD-ROM drives and CD-R/CD-RW drives.
125. The student will research a variety of sound cards and discuss the advantages and disadvantages of the different cards available.
126. The student will develop an understanding of troubleshooting guidelines focusing on multimedia.
127. The student will research the different types of digital cameras available and discuss the advantages and disadvantages of the various cameras.
128. The student will develop an understanding of MP-3 players, video-capturing cards, and digital video disc (DVD).
129. The student will become familiar with the Windows 9x core and architecture.
130. The student will compare and contrast 16 bit and 32 bit programming.
131. The student will develop an understanding of virtual machines and memory paging.
132. The student will compare and contrast Windows 98 and Windows 95.
133. The student will identify the upgrades available in Windows 98 and other available versions of Windows.
134. The student will install and configure Windows 9x.
135. The student will become familiar with the files used to customize the startup process.
136. The student will develop an understanding of the Windows 9x startup process and how to manage the Windows 9x desktop.
137. The student will develop an understanding of plug and play and hardware installations, plug and play BIOS and the Windows Registry.
138. The student will install and uninstall software applications.
139. The student will monitor system performance.
140. The student will develop an understanding of Windows NT.
141. The student will compare and contrast Windows NT and Windows 9x.
142. The student will be able to upgrade from Windows 9x to Windows NT.
143. The student will become familiar with the dual boot option.
144. The student will develop an understanding of the Windows NT Environment and Architecture.
145. The student will install and customize Windows NT
146. The student will support Windows NT and applications.
147. The student will manage legacy software in the Windows NT Environment.
148. The student will develop an understanding of the Windows NT Registry including its organization.
149. The student will back up the registry.
150. The student will install software and hardware in the NT environment.
151. The student will use Windows NT diagnostic tools such as task manager, event viewer, etc.

152. The student will compare and contrast Windows 2000 to Windows NT and Windows 9x.
153. The student will list reasons why Windows 2000 is the best option for Notebook computers.
154. The student will install Windows 2000 Professional
155. The student will compare and contrast the differences between a clean installation and an upgrade installation.
156. The student will troubleshoot problems with Windows 2000.
157. The student will backup the system state.
158. The student will understand the boot process.
159. The student will troubleshoot the boot process and problems that occur after the operating system loads.
160. The student will devise a needs assessment to determine the best PC option available.
161. The student will research the various PC options and prices available.
162. The student will choose between a PC or a Clone PC
163. The student will select hardware and software and compare the selection to a total package offer.
164. The student will select parts and prepare an assembly plan.
165. The student will develop an understanding of the PC assembly process.
166. The student will identify the communication layers.
167. The student will compare and contrast the various modems available.
168. The student will develop an understanding of modem technology.
169. The student will install and configure a modem.
170. The student will develop an understanding of communications software.
171. The student will identify strategies used to troubleshoot network problems.
172. The student will compare and contrast modems, ISDN, cable modem, DSL, and Satellite.
173. The student will develop an understanding of how printers actually work.
174. The student will identify strategies used to support printers.
175. The student will set up print shares over a network.
176. The student will compare and contrast Windows 98 notebook features and Windows 2000 notebook features.
177. The student will upgrade memory on a notebook computer.
178. The student will connect peripheral devices to a notebook.
179. The student will identify troubleshooting strategies that can be used to support the notebook computer.
180. The student will develop a preventive maintenance plan for handling computer repairs, the moving of equipment, and the disposal of used equipment.
181. The student will develop an understanding of computer viruses and other computer infestations.
182. The student will protect equipment against computer infestations using a virus protection application.
183. The student will develop an understanding of the importance of backing up data.
184. The student will develop an understanding of RAID and its place in a work-home environment.
185. The student will develop a plan for disaster recovery.
186. The student will develop an understanding of the elements required in providing good service.
187. The student will role-play proper techniques used in making a service call or offering phone support.
188. The student will develop strategies to become better communicators.
189. The student will develop strategies for situations in which they themselves cannot solve a problem.
190. The student will practice keeping up-to-date records.
191. The student will develop an understanding of the various professional organizations and certifications available to them.
192. The student will read and research a variety of resources available for continuous growth in the technology field.
193. The student will develop an understanding of copyright and the penalties for failing to adhere to the laws established.

Curriculum Guide

Web Design I



Web Design I

Content Outline

Topic	Competency	Suggested Time Frame
I. OVERVIEW OF THE INTERNET A. Evolution of the Internet B. Computer Terminology C. Understanding of Protocols D. How the Internet Works	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	3 blocks/ 6 single periods
II. WEB PAGE AUTHORIZING A. Web Page Portfolios B. Viewing Text Editors C. Viewing Source Code D. HTML Commands E. Problem Solving F. Web Page Resume	12, 13, 14, 15, 16, 17, 18	3 blocks/ 6 single periods
III. BROWSING THE WORLD WIDE WEB A. Differences of WWW vs. Internet B. Comparing Web Browsers C. Setting Preferences in Browsers D. Organizing Favorite Web Pages E. Image Loading Speeds	19, 20, 21, 22, 23, 24, 25, 26, 27, 28	3 blocks/ 6 single periods
IV. HYPERTEXT MARKUP LANGUAGE A. HTML Standards B. Extensible Hypertext Markup Language C. Differences Among Web Browsers D. HTML Differences Among Browsers	29, 30, 31, 32, 33	3 blocks/ 6 single periods
V. HTML CODING A. Create, Save, and View Web Pages B. Document Structure Tags C. Formatting Pages D. Creating Multiple Types of Lists E. Reviewing Proper HTML Procedures	34, 35, 36, 37, 38, 39, 40	5 blocks/ 10 single periods
VI. E-MAIL A. The Practice of "Netiquette" B. Set up E-Mail Accounts C. Send, Receive, and Save E-mail D. Listserves E. Address Books and Contact Lists F. E-Mail Newsletter	41, 42, 43, 44, 45, 46, 47	3 blocks/ 6 single periods

Topic	Competency	Suggested Time Frame
VII. HTML HYPERLINKS A. How Hyperlinks Work B. Creation of Links to Websites C. E-Mail Hyperlinks D. Internal and External Hyperlinks E. Images as Hyperlinks F. Links to Sound and Movie Files	48, 49, 50, 51, 52, 53	4 blocks/ 8 single periods
VIII. SEARCH ENGINES A. Functions of Search Engines B. Using Keywords of Relevant Searches C. Boolean Operators D. Directories and Meta Search Engines	54, 55, 56, 57, 58, 59, 60, 61, 62, 63	4 blocks/ 8 single periods
IX. HTML TABLES A. HTML Table Commands B. Spacing and Alignment C. Column and Row Spanning D. Images, Links, and Colors in Tables E. Nesting Tables	64, 65, 66, 67, 68, 69	6 blocks/ 12 single periods
X. HORIZONTAL RULES AND GRAPHIC ELEMENTS A. Creating Horizontal Lines B. Saving and Inserting Images C. Inserting Colors D. Color Charts E. Adding Backgrounds F. Using Multiple Fonts on a Web Page	70, 71, 72, 73, 74, 75, 76	5 blocks/ 10 single periods
XI. OBJECTS, PLUG-INS, AND VIEWERS A. Objects and Multimedia B. Plug-ins C. File Formats	77, 78, 79, 80	4 blocks/ 8 single periods
XII. HTML IMAGE TECHNIQUES A. Manipulating Images B. Image Maps C. Transparent Images D. Image Compression E. Animated Images	83, 84, 85, 86, 87, 88, 89, 90, 91	5 blocks/ 10 single periods
XIII. JAVA APPLET/JAVASCRIPT A. Java and JavaScript B. Pop-up Windows C. Rollovers D. Document Object Model (DOM) E. Java Applets	92, 93, 94, 95, 96, 97, 98, 99, 100	5 blocks/ 10 single periods

Topic	Competency	Suggested Time Frame
XIV. ADDING SOUND AND VIDEO A. Sounds on a Web Page B. Embedded Sounds C. Linked Sounds D. External Video E. Internal Video F. Video Streaming	101, 102, 103, 104, 105, 106	5 blocks/ 10 single periods
XV. E-COMMERCE A. E-Commerce vs. Traditional Commerce B. Secure payments in E-Commerce C. Smart Cards D. International Issues E. Copyrights, Licensing, and Trademarks F. Developing an E-Commerce Project	107, 108, 109, 110, 111, 112, 113, 114	4 blocks/ 8 single periods
XVI. FORMS AND LINK BUTTONS A. Purpose of Forms B. Creating Different Types of Forms C. Attributes of a Form D. Pull-Downs and Text Areas E. Password Boxes F. Link Buttons G. Guestbooks	117, 118, 119, 120, 121	3 blocks/ 6 single periods
XVII. SECURITY A. Cookies B. Configuring Security Preferences C. Security Risks D. Hypertext Transfer Protocol Secure E. Web Security F. Authentication, Encryption G. Virus Protection H. Proxy Servers and Firewalls	122, 123, 124, 125, 126, 127, 128, 129	3 blocks/ 6 single periods
XVIII. FRAMES A. Frames and Frame Commands B. Frameset Documents C. Nonframes Command D. Targeting Frames with Hyperlinks E. Specifying Base Targets F. Creating Borderless Frames	130, 131, 132, 133, 134, 135, 136	3 blocks/ 6 single periods

Topic	Competency	Suggested Time Frame
IXX. HTML EXTENSIONS A. Meta-tags B. Extending HTML C. Cascading Style Sheets D. JavaScript E. Dynamic HTML (DHTML) F. Document Object Model (DOM) G. Extensible HTML (XHTML) H. Extensible Markup Language (XML)	137, 138, 139, 140, 141, 142, 143, 144	3 blocks/ 6 single periods
XX. GRAPHIC USER INTERFACE HTML EDITORS A. Graphic User Interface Editors B. Various Types of GUI Editors C. Functions of GUI Editors D. Examples of GUI Editors E. Creating Web Pages with GUI Editors	145, 146, 147, 148, 149	3 blocks/ 6 single periods
XXI. NETWORKING ESSENTIALS A. Networks and Their History B. Mainframes C. Client/Server Model D. Web Based Networking E. Network Categories and Topologies F. Network Operating Systems G. Novell NetWare	150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160	2 blocks/ 4 single periods
XXII. NETWORKING PROTOCOLS A. Networking Protocols B. OSI Reference Model C. Packets D. OSI/RM Protocols E. Choosing and Combining Protocols	161, 162, 163, 164, 165, 166	2 blocks/ 4 single periods
XXIII. LANS AND WANS A. Local Area Networks (LAN) B. Wide Area Networks (WAN) C. Network Access Points (NAP) D. Network Components E. Transmission Media F. IEEE LAN Standards G. LAN Standards H. WAN Standards	167, 168, 169, 170, 171, 172, 173, 174, 175	1 block/ 2 single periods

Topic	Competency	Suggested Time Frame
XXIV. TCP/IP ARCHITECTURE AND INTERNET ADDRESSING A. TCP/IP and Desktop Configurations B. Internet architecture C. Requests for Comments (RFC's) D. Internet Protocols E. Demultiplexing F. Routing Protocols G. Port Numbers H. Internet Addressing I. IP addressing J. Reserved IP Addressing Rules K. Subnet Masks L. Diagnostic Troubleshooting Rules	176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188	2 blocks/ 4 single periods
XXV. INTERNETWORKING SERVERS A. Servers and Internetworking Servers B. File and Print Servers C. HTTP Server Essentials D. Proxy, Cache, Mail, Media, DNS, FTP E. Certificate, Directory, Catalog, and Transaction Servers F. Mirrored Servers G. Popular Server Products	189, 190, 191, 192, 193, 194, 195, 196, 197	2 blocks/ 4 single periods
XXVI. SEVER-SIDE SCRIPTING & DATABASE CONNECTIVITY A. Client Side Scripting B. Server Side Scripting C. HTTP Gateways D. HTML Forms E. Common Gateway Interface (CGI) F. CGI Alternatives G. Java Servlets H. Database Connectivity	198, 199, 200, 201, 202, 203, 204	2 blocks/ 4 single periods
XXVII. NETWORK SECURITY ESSENTIALS A. Reasons for Security B. Security Assets C. Security Threats and Hacker Attacks D. Viruses E. Auditing Network Systems F. Intrusion Detection Software G. Authentication H. Encryption I. Virtual Private Networks (VPN) J. Secure Socketslayer (SSL) K. Digital Certificates L. Firewalls, Filters, and Proxy Servers	205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219	2 blocks/ 4 single periods

Web Design I

Competencies

1. The student will trace the evolution of the Internet.
2. The student will define Transmission Control Protocol/Internet Protocol (TCP/IP) and state how the Internet uses it.
3. The student will describe how the client/server model functions on the Internet.
4. The student will list several criteria for selecting an Internet Service Provider (ISP).
5. The student will identify and describe major Internet protocols, such as Hypertext Transfer Protocol (Http), e-mail, File Transfer Protocol (FTP) and newsgroups.
6. The student will explain domain names and virtual domains.
7. The student will describe the functions of the ICANN and the InterNIC.
8. The student will identify the purpose and function of Uniform Resource Locators (URLs).
9. The student will describe the difference among the Internet, Intranets, and extranets.
10. The student will outline the current structure of the Internet.
11. The student will create web page portfolios for business applications.
12. The student will explain and describe and demonstrate the use of Text Editors.
13. The student will demonstrate how to view source code and find specific HTML commands on web pages on the Internet.
14. The student will utilize Graphic User Interface (GUI) Editors.
15. The student will explain how to access web pages.
16. The student will describe and solve Front-End Issues.
17. The student will describe and solve Back-End Issues.
18. The student will discuss and create resume web pages.
19. The student will describe the origins of the World Wide Web, and explain the difference between the Web and the Internet.
20. The student will define the term *legacy application*.
21. The student will access, view, and navigate Web pages using various Web browsers.
22. The student will enter and explain Uniform Resource Locators (URLs).
23. The student will view Web page source code.
24. The student will set preferences to customize a Web browser.
25. The student will configure and empty browser caches.
26. The student will save and organize frequently used Web page addresses in the Favorites and Bookmarks folders.
27. The student will control browser image loading.
28. The student will explain the function of the Wireless Application protocol (WAP).
29. The student will define what HTML is.
30. The student will explain HTML Standards and Extensible Hypertext Markup Language (XHTML).
31. The student will describe the differences of different Web browsers.
32. The student will explain how to change Preferences on a browser.
33. The student will explain how HTML codes differ between different types of browsers.
34. The student will create and save an HTML Page.
35. The student will explain how Markup work.
36. The student will explain the purpose of Document Structure Tags.
37. The student will format paragraphs and use Block-level Elements.
38. The student will create different types of Lists.
39. The student will add Hidden Comments.
40. The student will demonstrate Good Coding Practice.
41. The student will send and receive e-mail messages using various e-mail client programs.
42. The student will define and practice "netiquette."
43. The student will create and add e-mail signatures to e-mail messages.
44. The student will attach a file to an e-mail message.
45. The student will describe the purpose of mailing lists.
46. The student will receive e-mail messages using various e-mail client programs.
47. The student will define and practice "netiquette."
48. The student will understand how Links work on the Internet.
49. The student will demonstrate the purpose of Anchor Tags.
50. The student will change Images into Links.
51. The student will explain and Create Internal Links.
52. The student will explain and Create External Links.

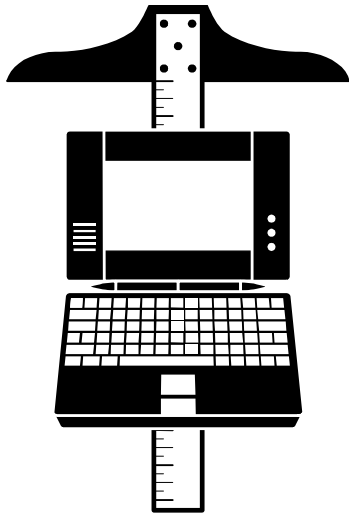
53. The student will create links to sound and movie files.
54. The student will explain the function of search engines and their use of keywords.
55. The student will evaluate multiple search engines for matching relevant results.
56. The student will explain the functions of static, keyword, and full-text search indexes.
57. The student will use search engines to seek information.
58. The student will search for Internet data using AND, OR, AND NOT, NOT, NEAR, wildcards, and plus and minus signs.
59. The student will use Boolean operators in an advanced Web search.
60. The student will search for graphics, people, and mailing lists on the Internet.
61. The student will describe the purposes of Archie, Gopher, and Veronica.
62. The student will explain and demonstrate the use of meta-tags.
63. The student will promote a Web site with enhanced search engine positioning.
64. The student will describe and create a simple table.
65. The student will add Table and Data Alignment Options.
66. The student will change Height and Width elements of a table.
67. The student will explain Column and Row Spanning.
68. The student will insert images, colors, and links in tables.
69. The student will explain how to nest tables for to enhance web page appearance
70. The student will add Horizontal Ruling lines and manipulate size, width, and color.
71. The student will incorporate Images into pages.
72. The student will explain the use of Special Characters.
73. The student will explain how to insert Colors in HTML.
74. The student will describe the Web-Safe color palette.
75. The student will insert commands to change Page colors and Backgrounds.
76. The student will specify Font Information.
77. The student will define objects and their relationships to multimedia.
78. The student will explain the basics of C, C++, Java, JavaScript, ActiveX, JScript, and VBScript, and describe how they are related to each other.
79. The student will describe the purpose of plug-ins.
80. The student will identify plug-ins and viewers, including, RealNetworks RealPlayer, Macromedia Shockwave and Flash players, Apple QuickTime, and Adobe Acrobat Reader.
81. The student will listen to and view multimedia objects within your browser.
82. The student will identify various file formats, such as MPEG, MP3, MOV, AIFF, AU, WAV, AVI, EPS, TIFF, and RTF.
83. The student will explain and demonstrate techniques for manipulating images.
84. The student will define and Create Image Maps and discuss the advantages of Image Map software.
85. The student will define and discuss a user-side image map and server-side image map.
86. The student will create and explain possible purposes of Transparent Images.
87. The student will explain Interfacing.
88. The student will explain and Insert Animated GIFs.
89. The student will explain and discuss compression of images.
90. The student will compare and contrast javascript animation vs. compressed file animation.
91. The student will explain, discuss and create images with Gif construction software.
92. The student will describe the difference between Java and Javascript.
93. The student will add Javascript to a web page.
94. The student will add an event that runs a Javascript.
95. The student will create a link and/or button that runs a Javascript.
96. The student will display a pop-up window.
97. The student will create an Image Rollover.
98. The student will access a browser's Document Object Model.
99. The student will describe the Javascript Object Hierarchy.
100. The student will create Java Applets.
101. The student will create a link to a sound.
102. The student will describe sound considerations in HTML.
103. The student will add an embedded sound.
104. The student will add an external video to a web page.
105. The student will describe video considerations in HTML.
106. The student will add an internal video clip to a web page.
107. The student will define electronic commerce and compare it to traditional commerce.
108. The student will identify the principal features of Electronic Data Interchange (EDI) and Secure Electronic Transactions (SET).
109. The student will discuss the advantages and key issues of e-commerce.
110. The student will define the payment models for e-commerce.

111. The student will identify the international issues involved with e-commerce.
112. The student will describe the functions and advantages of smart cards.
113. The student will explain the issues involved with copyrights, licensing, and trademarks.
114. The student will describe the fundamentals of project management, including the major stages of a design/development project cycle.
115. The student will explain the purpose of Forms commands.
116. The student will create a document using the <FORM> and <FORM ELEMENTS> tag.
117. The student will explain and demonstrate the use of Pull Downs, Text Areas, Password Boxes.
118. The student will explain the difference between password boxes and security links.
119. The student will add Web form fields.
120. The student will introduce javascript for validating forms.
121. The student will explain and demonstrate Get, Post, and Action commands.
122. The student will describe cookies and their purpose.
123. The student will control Web server access to cookie files on your computer.
124. The student will configure browser security preferences.
125. The student will identify security risks when sending information over the Web.
126. The student will describe the importance of Hypertext Transfer Protocol Secure (HTTPS).
127. The student will explain how authentication, digital certificates, and encryption provide Web security.
128. The student will describe a computer virus and explain how to protect from virus attacks.
129. The student will identify the purposes of proxy servers and firewalls.
130. The student will explain the uses of frames.
131. The student will create a document using the <FRAMESET> and <FRAME> Tag.
132. The student will describe and create a Frameset document.
133. The student will explain the use of the <NOFRAMES> tag.
134. The student will create documents targeting frames with hyperlinks.
135. The student will explain how to specifying a base target.
136. The student will explain how to create Borderless Frames.
137. The student will explain and apply meta-tags in a web page.
138. The student will explain Extending HTML.
139. The student will describe and create Cascading style sheets (CSS).
140. The student will demonstrate the use of JavaScript.
141. The student will create web pages using Dynamic HTML (DHTML).
142. The student will describe and explain the Document Object Model (DOM)
143. The student will describe and explain Extensible HTML (XHTML).
144. The student will describe and explain Extensible Markup Language (XML).
145. The student will utilize Graphical User Interface Editors.
146. The student will explain different Types of HTML GUI editors.
147. The student will describe the function of a GUI editor.
148. The student will create web pages in a GUI editor.
149. The student will compare and Contrast HTML text editors vs. GUI editors.
150. The student will define Networks.
151. The student will describe the evolution of Networking.
152. The student will define and explain the purpose of Mainframes.
153. The student will explain the Client/Server model.
154. The student will describe Web-based networking.
155. The student will explain the different Networking categories.
156. The student will define and describe Network topologies.
157. The student will demonstrate an understanding of Network operating systems.
158. The student will describe and explain the purpose of Novell NetWare.
159. The student will demonstrate a working knowledge Microsoft Windows NT/2000.
160. The student will explain and describe the UNIX operating system.
161. The student will explain the need for protocols.
162. The student will define and Describe OSI reference model.
163. The student will demonstrate the use of Packets.
164. The student will demonstrate the use of OSI/RM protocol examples.
165. The student will explain, define and describe the Major networking Protocols: TCP/IP, IPX/SPX, Net BEUI, and AppleTalk, Data Link Control (DLC), Systems Network Architecture (SNA).
166. The student will demonstrate Choosing and combining protocols.
167. The student will define and describe the basics of LANs and WANs.
168. The student will demonstrate a working knowledge of Local area networks (LANs).
169. The student will demonstrate a working knowledge of Wide area networks (WANs).
170. The student will explain and describe Network Access Points (NAPs).

171. The student will describe Common network components.
172. The student will explain Transmission media and types.
173. The student will define and describe IEEE LAN standards.
174. The student will demonstrate knowledge of LAN standards.
175. The student will demonstrate knowledge of WAN standards.
176. The student will define and describe TCP/IP.
177. The student will demonstrate a knowledge of Internet architecture.
178. The student will describe the use of Requests for comments (RFCs).
179. The student will explain the structure of Internet protocols.
180. The student will define and describe Demultiplexing.
181. The student will define and explain routing.
182. The student will demonstrate the use of Routing protocols.
183. The student will explain the purpose of Port numbers.
184. The student will demonstrate the structure of Internet addressing.
185. The student will explain and define IP addressing Rules.
186. The student will demonstrate how Reserved IP addressing works.
187. The student will define and describe Subnet masks and Normal TCP/IP desktop configurations.
188. The student will have a working knowledge of diagnostic tools for internet troubleshooting.
189. The student will explain the role of servers.
190. The student will describe Internetworking servers.
191. The student will demonstrate the use of File and print servers.
192. The student will describe and explain HTTP server essentials.
193. The student will define Proxy, Caching, Mail, Mailing List, Media, DNS, FTP, News.
194. The student will define Certificate, Directory, Catalog, and Transaction Servers.
195. The student will explain the purpose of Mirrored servers.
196. The student will demonstrate knowledge of how to Choose the ideal server.
197. The student will describe current popular server products.
198. The student will define scripting.
199. The student will explain and Describe Client-side and server-side scripting.
200. The student will define and explain HTTP gateways.
201. The student will explain HTML forms and form processing.
202. The student will define and demonstrate Common gateway interface (CGI).
203. The student will compare and contrast CGI alternatives: server programming interfaces, scripting technologies, and Java Servlets.
204. The student will explain and describe how databases and database connectivity are implemented in networking.
205. The student will explain the reasons for security.
206. The student will define security and assets.
207. The student will describe different security threats and attacks.
208. The student will define and describe viruses and the hacker process.
209. The student will demonstrate how to defeat attacks by viruses.
210. The student will audit network systems.
211. The student will compare and contrast different intrusion-detection software.
212. The student will define and explain authentication.
213. The student will define and describe Encryption.
214. The student will explain Country-specific encryption standards.
215. The student will identify Network-level protocols and encryption.
216. The student will define and describe Virtual private networks (VPN).
217. The student will define, describe, and demonstrate Secure socketslayer (SSL).
218. The student will define and describe digital certificates.
219. The student will compare and contrast Firewalls, packet filters, proxy servers, and firewall topology.

Curriculum Guide

Web Design II



Web Design II

Content Outline

Topic	Competency	Suggested Time Frame
I. WEB DESIGN PRINCIPLES A. Web Technologies B. Web Design Principles C. Web Tools D. HTML Skills	1, 2, 3, 4, 5,	2blocks/ 4 single periods
II. WEB PAGE LAYOUT A. Web Page Layout B. Web Page Layout Elements C. Uses of Color and White Space D. Various Numerical Definitions of Color E. Appropriate Web Page Fonts	6, 7, 8, 9, 10	4 blocks/ 8 single periods
III. WEB PAGE USABILITY A. Web Page Usability Elements B. Usability Testing C. Target Audiences	11, 12	2 blocks/ 4 single periods
IV. NAVIGATION PRINCIPLES A. Navigation Principles B. Navigation Elements of Browsers C. Web Site Hierarchy D. Navigation Action Plan	13, 14, 15, 16	4 blocks/ 8 single periods
V. WEB IMAGES A. Pixels, Color Depth, and Resolution B. Bitmap and Vector Graphics C. Image File Formats D. Image Optimization E. Image Slicing and Splicing	17, 18, 19, 20	4 blocks/ 8 single periods
VI. MULTIMEDIA A. Current Trends in Web Multimedia B. Animation, Audio, and Video on the Web C. Multimedia Principles D. Multimedia Elements E. Copyrights	21, 22, 23, 24	2 blocks/ 4 single periods
VII. WEB DEVELOPMENT A. Web Development Phases B. Web Project Goals C. Web Development Teams D. Project Management	25, 26, 27, 28, 29, 30, 31	2 blocks/ 4 single periods

Topic	Competency	Suggested Time Frame
<ul style="list-style-type: none"> E. Defining Vision, Strategy, and Traffic F. Site Metaphor Concept G. Mindmapping 		
<p>VIII. IMPLEMENTING A WEBSITE</p> <ul style="list-style-type: none"> A. Factors of Web Site Implementation B. Characteristics of Web Site Design C. Download Times 	32, 33, 34	2 blocks/ 4 single periods
<p>IX. HTML STANDARDS AND COMPLIANCE</p> <ul style="list-style-type: none"> A. HTML and Its History B. HTML Standards C. HTML Flavors D. Web Accessibility E. Section 508 of the Rehabilitation Act 	35, 36, 37, 38	2 blocks/ 4 single periods
<p>X. VARIOUS HTML WEB PAGE STRUCTURES - TABLES AND FRAMES</p> <ul style="list-style-type: none"> A. Using Tables to Structure Web Pages B. Using Frames to Structure Web Pages C. Creating Nested Table and Frames Web Pages D. Frameset Attributes E. Target Frameset Hyperlinks 	39, 40, 41, 42, 43	5 blocks/ 10 single periods
<p>XI. META TAGS AND CASCADING STYLE SHEETS</p> <ul style="list-style-type: none"> A. Meta Tags B. Meta Data C. Cascading Style Sheets D. External, Inline, and Embedded Style Sheets 	44, 45, 46, 47, 48, 49, 50	2 blocks/ 4 single periods
<p>XII. SITE DEVELOPMENT WITH MICROSOFT FRONTPAGE</p> <ul style="list-style-type: none"> A. Microsoft FrontPage Elements B. MS FrontPage Views C. MS FrontPage Formatting and Operations D. MS FrontPage Page Layout E. MS FrontPage Image Manipulation Including Imagemaps F. MS FrontPage Themes G. MS FrontPage Reports H. MS FrontPage Forms 	51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65	15 blocks/ 30 single periods
<p>XIII. SITE DEVELOPMENT WITH MACROMEDIA DREAMWEAVER</p> <ul style="list-style-type: none"> A. Macromedia Dreamweaver Elements B. Macromedia Dreamweaver Templates C. Macromedia Dreamweaver Formatting and Operations 	66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79	15 blocks/ 30 single periods

Topic	Competency	Suggested Time Frame
<ul style="list-style-type: none"> D. Macromedia Dreamweaver Page Layout E. Macromedia Dreamweaver Image Manipulation Including Imagemaps F. Macromedia Dreamweaver Rollover G. Macromedia Dreamweaver Links H. Macromedia Dreamweaver Forms 		
<ul style="list-style-type: none"> XIV. MACROMEDIA HOMESITE 5 <ul style="list-style-type: none"> A. Macromedia HomeSite 5 B. Macromedia HomeSite Tag Features C. Macromedia HomeSite Templates D. Macromedia HomeSite Operations 	80, 81, 82	2 blocks/ 4 single periods
<ul style="list-style-type: none"> XV. MACROMEDIA FIREWORKS MX <ul style="list-style-type: none"> A. Macromedia Fireworks MX Elements B. Macromedia Fireworks MX Image Manipulation Including Image Maps C. Macromedia Fireworks MX Layers D. Macromedia Fireworks MX Frames E. Macromedia Fireworks MX Slices F. Transparent Images G. Animated Images 	83, 84, 85, 86, 87, 88, 89	5 blocks/ 10 single periods
<ul style="list-style-type: none"> XVI. MACROMEDIA FLASH MX <ul style="list-style-type: none"> A. Macromedia Flash B. Creating and Editing C. Additional Functions D. Mask Layers 	90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111	5 blocks/ 10 single periods
<ul style="list-style-type: none"> XVII. JAVASCRIPT <ul style="list-style-type: none"> A. Programming Concepts B. Objects, Properties, and Methods C. JavaScript D. Java Applets E. Java F. Dot Notation 	112, 113, 114, 115, 116	2 blocks/ 4 single periods
<ul style="list-style-type: none"> XVIII. EXTENSIONS OF HTML, DHTML AND XML <ul style="list-style-type: none"> A. Dynamic HTML (DHTML) B. Document Object Model (DOM) C. Extensible Markup Language (XML) D. Extensible Hypertext Markup Language (XHTML) E. Active Server Pages 	117, 118, 119, 120, 121, 122	4 blocks/ 8 single periods

Topic	Competency	Suggested Time Frame
IXX. HTTP SERVERS A. HTTP Servers B. Ports C. Server-Side Technology D. CGI-Handling Form E. Apache Server F. JavaServer Pages G. Active Server Pages	123, 124, 125, 126, 127, 128, 129	3 blocks/ 6 single periods
XX. DOWNLOADABLES AND PLUG-INS A. Plug-ins B. Macromedia Shockwave and Flash C. Adobe Acrobat Reader D. Video Streaming E. Downloading Plug-ins F. Portable Document Format	130, 131, 132	2 blocks/ 4 single periods
XXI. DATABASES A. Database B. Database Management System (DBMS) C. Database Technologies D. Relational Database Management System (RDBMS) E. Network Categories and Topologies F. Network Operating Systems G. Novell NetWare	133, 134, 135, 136	2 blocks/ 4 single periods
XXII. STANDARDS ORGANIZATIONS A. Internet Society B. Internet Architecture Board C. Internet Research Task Force D. Internet Engineering Task Force E. World Wide Web Consortium F. Internet Corporation for Assigned Names and Numbers G. Request for Comments	137, 138, 139	2 blocks/ 4 single periods
XXIII. WEB SITE PUBLISHING A. In-house Web Site Publishing B. Internet Service Provider C. File Transfer Protocol D. Publishing with MS FrontPage E. Publishing with Macromedia Dreamweaver	140, 141	2 block/ 4 single periods

Web Design II

Competencies

1. Define and describe Web technologies.
2. Define and describe Web design concepts.
3. Describe current Web design tools.
4. Describe current and future trends in Web technology.
5. Create a Web page using HTML skills.
6. Define and describe common page layouts.
7. Define and describe common page layout elements.
8. Define and describe the importance of color when designing a Web site.
9. Identify color hexadecimal codes and other numerical ways to identify colors.
10. Identify and describe fonts for Web pages.
11. Define and implement Web page usability.
12. Define and describe the importance of target audiences.
13. Define and describe navigation elements.
14. Explain browser navigation processes.
15. Define and demonstrate Web page hierarchy.
16. Develop an action plan that incorporates logical navigation.
17. Define and describe the purpose of graphics in a Web page.
18. Define and describe color depth.
19. Define and describe color resolution.
20. Identify and describe different graphic file formats.
21. Define and describe available multimedia technologies.
22. Demonstrate the use of multimedia in Web pages.
23. Identify multimedia file types
24. Implement multimedia principals used in a Web page.
25. Define and describe the Web development process.
26. Define and describe design goals.
27. Implement a Web site vision statement.
28. Implement a Web design strategy and tools to create it.
29. Describe and discuss the site metaphor concept.
30. Define and describe mindmapping.
31. Implement mindmapping in the creation of a Web page.
32. Define and describe elements affecting a Web site's implementation.
33. Describe and discuss site design characteristics.
34. Define and discuss download times.
35. Discuss the history of HTML.
36. Describe HTML standards.
37. Define and describe different HTML flavors.
38. Define and discuss Web accessibility.
39. Implement tables when designing Web pages.
40. Define and describe the use of the frames command in HTML documents.
41. Create a simple frames Web page.
42. Create a nested frames Web page.
43. Define, discuss, and implement frames attributes.
44. Implement target frameset hypelinks.
45. Define and describe the use of meta-tags in an HTML document.

46. Implement meta-tags and their attributes.
47. Define and discuss factors that influence search engine results.
48. Define and discuss the uses of Cascading Style Sheets.
49. Implement CSS in the design of a Web presence.
50. Discuss and implement the use of an external style sheet.
51. Create a Web page using Microsoft FrontPage 2000.
52. Define and discuss the elements of the MS FrontPage 2000 program.
53. Implement FrontPage views.
54. Use FrontPage to add, move, and delete Web pages.
55. Navigate through folders/options in MS FrontPage.
56. Create a FrontPage Web page implementing tables.
57. Insert and modify images using FrontPage.
58. Create and use FrontPage templates.
59. Create links and imagemaps using FrontPage.
60. Create framesets in FrontPage.
61. Implement FrontPage themes in Web pages.
62. Use the DHTML toolbar in FrontPage.
63. Define, discuss, and implement FrontPage reports.
64. Implement a search form in FrontPage.
65. Define and discuss the components used in Dreamweaver.
66. Open, close, save, and create Web projects in Dreamweaver.
67. Navigate through folders/options in Dreamweaver.
68. Add layers, images, and text using Dreamweaver.
69. Implement creative page layouts in Dreamweaver.
70. Create and use Dreamweaver templates.
71. Create links and imagemaps using Dreamweaver.
72. Create framesets in Dreamweaver.
73. Define and discuss the Dreamweaver Objects palette.
74. Create rollovers in Dreamweaver.
75. Create Web forms using Dreamweaver.
76. Define, discuss, and implement the Dreamweaver Behaviors Inspector.
77. Modify and insert HTML in Dreamweaver.
78. Add jump menus in Dreamweaver.
79. Define and describe the Macromedia Dreamweaver Exchange.
80. Open, save, create, and close Web pages using HomeSite.
81. Implement the HomeSite default template.
82. Implement HomeSite Tag features.
83. Open, save, create, and close images using Macromedia Fireworks MX.
84. Insert and modify text using Macromedia Fireworks MX.
85. Add special effects to images using Macromedia Fireworks MX.
86. Modify colors using Macromedia Fireworks MX.
87. Implement the use of layers to combine images.
88. Create transparent and animated images using Macromedia Fireworks MX.
89. Change the file formats of images using Macromedia Fireworks MX.
90. Describe Flash elements.
91. Define and identify Flash toolbar icons.
92. Implement Flash drawing tools.
93. Create, resize, and configure different shapes.
94. Change and modify colors using Flash.
95. Describe and discuss the Flash timeline.

96. Insert/create frames and keyframes in Flash.
97. Create and modify layers using Flash.
98. Create, edit, save, and publish a Flash movie.
99. Create, edit, animate, and save graphic/button symbols.
100. Modify Flash symbols.
101. Modify frames using Flash.
102. Define and discuss Flash tweens.
103. Create Flash text, shape, and movie tweens.
104. Implement stops using keyframes in Flash.
105. Compare and contrast a Flash movie with a Flash movie clip.
106. Create Flash movie clips.
107. Resize and add sound to Flash movies.
108. Insert flash movies to Web pages.
109. Describe and discuss the Flash plug-in.
110. Define, describe, and implement Flash tell targets and action cells.
111. Create mask layers using Flash.
112. Identify advanced Web technology concepts.
113. Define and describe JavaScript, Java applets and Java.
114. Define and discuss objects, properties, and methods.
115. Implement JavaScript code in a Web page.
116. Use dot notation.
117. Define and discuss the uses of DHTML.
118. Describe the Document Object Model.
119. Create DHTML code for MS Internet Explorer and Netscape Navigator.
120. Define and discuss the uses of XML.
121. Describe elements and uses of XML.
122. Define and discuss XHTML.
123. Define and discuss different HTTP servers.
124. Describe and discuss the use of ports.
125. Describe and discuss server-side technologies used for Web pages.
126. Compare and contrast Common Gateway Interface, JavaServer Pages, and Active Sever Pages.
127. Define and discuss the use of cookies in a Web site.
128. Modify your browser's cookie preferences.
129. Delete cookies from your browser.
130. Define and discuss plug-ins.
131. Locate and install different plug-ins.
132. Create links to file downloads.
133. Define and describe Java applets and their function in creating animation.
134. Define the uses of databases with Web pages.
135. Describe the elements of database.
136. Describe the different DBMS types.
137. Identify and discuss different Internet governing organizations.
138. Explore how to register a domain name.
139. Locate and review "Request for Comments".
140. Compare and contrast Web hosting options.
141. Identify various Web site publishing options.