Chapter 126. Texas Essential Knowledge and Skills for Technology Applications

Subchapter C. High School

Statutory Authority: The provisions of this Subchapter C issued under the Texas Education Code, §28.002, unless otherwise noted.

§126.28. Web Mastering (One Credit).

TEKS	Related IE Class Topic
(a) General requirements. The prerequisite for this course is proficiency in the knowledge and skills described in §126.12(c) of this title (relating to Technology Applications (Computer Literacy), Grades 6-8). This course is recommended for students in Grades 9-12.	
(b) Introduction.	
(1) The technology applications curriculum has four strands: foundations, information acquisition, work in solving problems, and communication.	
(2) Through the study of technology applications foundations, including technology-related terms, concepts, and data input strategies, students learn to make informed decisions about technologies and their applications. The efficient acquisition of information includes the identification of task requirements; the plan for using search strategies; and the use of technology to access, analyze, and evaluate the acquired information. By using technology as a tool that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results. Students communicate information in different formats and to diverse audiences. A variety of technologies will be used. Students will analyze and evaluate the results.	
(c) Knowledge and skills.	
(1) **Foundations.** The student demonstrates knowledge and appropriate use of hardware components, software programs, and their connections. The student is expected to:	
(A) demonstrate knowledge and appropriate use of operating systems, software applications, and communication and networking components;	**Foundations 2 & 3**
(B) compare, contrast, and use appropriately the various input, processing, output, and primary/secondary storage devices;	**Foundations 2**
(C) make decisions regarding the selection, acquisition, and use of software taking under consideration its quality, appropriateness, effectiveness, and efficiency;	**Foundations 2**
(D) delineate and make necessary adjustments regarding compatibility issues including, but not limited to, digital file formats and cross platform connectivity;	**Foundations 2**
(E) use vocabulary related to web mastering and delineate between the Internet and an intranet;	**Foundations - ALL**
(F) summarize the technical needs of a World Wide Web (WWW) server including Random Access Memory (RAM), hard disk capacity, Central Processing Unit (CPU) speed, methods of connectivity, and appropriate software; and	**Foundations 2 & 3**
(G) summarize the development of Internet protocols including, but not limited to, hypertext transfer protocol (http), gopher, file transfer protocol (ftp), telnet, and wide area information system (wais).	**Foundations 3 & 7**

(2) **Foundations.** The student uses data input skills appropriate to the task. The student is expected to:	
(A) outline differences among a variety of electronic input devices; and	**Foundations 2**
(B) demonstrate proficiency in the use of a variety of electronic input devices such as keyboard, scanner, voice/sound recorder, mouse, touch screen or digital video by incorporating such components while publishing WWW pages.	**HTML/CSS/ JavaScript/PHP All Labs & Projects**
(3) **Foundations.** The student complies with the laws and examines the issues regarding the use of technology in society. The student is expected to:	
(A) discuss copyright laws/issues and model ethical acquisition and use of digital information, citing sources using established methods;	**Foundations 6**
(B) demonstrate proper etiquette and knowledge of acceptable use policies when using networks, especially resources on the Internet and intranet; and	**Foundations 3**
(C) analyze the impact of the WWW on society through research, interviews, and personal observation.	**Projects 5**
(4) **Information acquisition.** The student uses a variety of strategies to acquire information from electronic resources, with appropriate supervision. The student is expected to:	
(A) use local area networks (LANs) and wide area networks (WANs) including the Internet and intranet in research and resource sharing;	**HTML/CSS/ JavaScript/PHP All Labs & Projects**
(B) construct appropriate search strategies in the acquisition of information from the Internet including keyword and Boolean search strategies; and	**All Projects**
(C) obtain Uniform Resource Locators (URLs) and distinguish among the protocols including hypertext transfer protocol (http), gopher, file transfer protocol (ftp), telnet, and wide area information system (wais).	**Foundations 2 & 7**
(5) **Information acquisition.** The student acquires electronic information in a variety of formats, with appropriate supervision. The student is expected to:	
(A) acquire information in electronic formats including text, audio, video, and graphics, citing the source; and	**HTML 5 & Labs & Projects**
(B) identify, create, and use available file formats including text, image, video (analog and digital), and audio files.	**Labs**
(6) **Information acquisition.** The student evaluates the acquired electronic information. The student is expected to:	
(A) determine and employ methods to evaluate the design (for content delivery) and functionality (for navigation and interaction) of WWW pages and compare the method with other established methods;	**HTML/CSS/ JavaScript/PHP All Labs & Projects**
(B) demonstrate skill in testing the accuracy of information; and	**Projects 2 - 5**
(C) investigate and choose electronic security methods for a web server to protect from unauthorized access and negative intentions.	**PHP Lessons**

(7) **Solving problems.** The student uses appropriate computer-based productivity tools to create and modify solutions to problems. The student is expected to:	
(A) use technology tools to create a knowledge base with a broad perspective;	**Projects**
(B) select and integrate appropriate productivity tools including, but not limited to, word processor, database, spreadsheet, telecommunication, draw, paint, and utility programs into the creation of WWW documents;	**Projects**
(C) use foundation and enrichment curricular content in the creation of WWW pages;	**Labs & Projects**
(D) create WWW pages using specific authoring tools such as text-based editing programs or graphical-based editing programs;	**Labs & Projects**
(E) read, use, and develop technical documentation;	**All Lessons**
(F) create and edit WWW documents using established design principles including consistency, repetition, alignment, proximity, ratio of text to white space, image file size, color use, font size, type, and style;	**All Labs & Projects**
(G) demonstrate the ability to control access to the WWW site via password controls and global access/deny controls; and	**JavaScript 5 & 9** **PHP 4, 6, 8, 9**
(H) establish a folder/directory hierarchy for storage of a web page and its related or linked files.	**All Labs & Projects**
(8) **Solving problems.** The student uses research skills and electronic communication, with appropriate supervision, to create new knowledge. The student is expected to:	
(A) demonstrate proficiency in, appropriate use of, and navigation of LANs, WANs, the Internet, and intranet for research and for sharing of resources;	**All Labs & Projects**
(B) extend teaching and learning in the local environment to the worldwide community through the creation and sharing of WWW documents;	**Foundations 7** **All Projects**
(C) synthesize and generate new information from data gathered from electronic and telecommunications resources;	**All Projects**
(D) create and format WWW documents containing bookmarks of on-line resources and share them electronically;	**All Projects**
(E) demonstrate the use of WWW pages, collaborative software, and productivity tools to create products;	**All Labs & Projects**
(F) participate with electronic communities as a learner, initiator, contributor, and teacher/mentor; and	**IE Class** **Messenger** **& Peer Evaluation**
(G) participate in relevant, meaningful activities in the larger community and society to create electronic projects.	**Project 5**

(9) **Solving problems.** The student uses technology applications to facilitate evaluation of work, both process and product. The student is expected to:	
(A) design and implement procedures to track trends, set timelines, and review/evaluate progress for continual improvement in process and product;	**All Projects**
(B) seek and respond to advice from peers and professionals in delineating technological tasks;	**Projects (Peer Evaluations)**
(C) create technology specifications for tasks and evaluation rubrics; and	**Projects**
(D) resolve information conflicts and validate information through accessing, researching, and comparing data.	**Projects**
(10) **Communication.** The student formats digital information for appropriate and effective communication. The student is expected to:	
(A) use hypertext linking appropriately when creating WWW pages;	**HTML 3 and on**
(B) develop interactivity for the web server via scripting additions such as Common Gateway Interface (CGI), Java Script, or JAVA; and	**All JavaScript & PHP Lessons**
(C) demonstrate the ability to conduct secure transactions from the web server to the client.	**All PHP Lessons & Labs**
(11) **Communication.** The student delivers the product electronically in a variety of media, with appropriate supervision. The student is expected to:	
(A) synthesize and publish information in a variety of ways including, but not limited to, printed copy, monitor display, Internet documents, and video; and	**All Labs & Projects**
(B) identify and use LANs, WANs, and remote resources to exchange and publish information.	**All PHP Lessons & Labs**
(12) **Communication.** The student uses technology applications to facilitate evaluation of communication, both process and product. The student is expected to:	
(A) create technology specifications for tasks and evaluation rubrics; and	**All Projects**
(B) seek and respond to input from peers and professionals in evaluating the product.	**All Projects *Peer Evaluation System**