

# **COURSE TITLE: Web Development**

## **Course Description:**

Web Development covers web design, web publishing, web programming, and database management. Web development includes many types of web content creation, such as hand coding web pages in a text editor, building a website in a program, and updating a blog via a blogging website. This course includes exploring and demonstrating business-related skills such as teamwork, interpersonal skills, and ethical use of programs, resources, and materials while completing projects.

## **Potential Certifications/Credentials:**

Adobe Certified Associate (ACA) – Photoshop / Dreamweaver / Premier Pro / InDesign / Illustrator, ASK Institute – Concepts of Entrepreneurship and Management / Fundamental Business Concepts, Certiport- Entrepreneurship and Small Business (must hold concentrator status), IC3 Global Standard 6 (or higher), Microsoft Office Expert 2019/365 - Access / Excel / Word, Microsoft Office Specialist 2019/365 (MOS) (Two of the following areas REQUIRED: Excel Associate / Outlook Associate / PowerPoint Associate / Word Associate)

# Course Scope and Sequence

Unit #	Unit Title	Estimated Hours
1	<a href="#">Foundational Standards</a>	
2	<a href="#">Hardware, Software, and Connectivity Technologies</a>	
3	<a href="#">Ethics, Security, and Application in Web Pages</a>	
4	<a href="#">Fundamentals of Web Design</a>	
5	<a href="#">Fundamentals of Web Programming</a>	
6	<a href="#">Web Page Servers and Hosting</a>	
7	<a href="#">Basic Troubleshooting and Validation</a>	
8	<a href="#">Impact of Computing</a>	
9	<a href="#">Design Process</a>	
10	<a href="#">Data</a>	

# Unit Plans of Instruction

## Foundational Standards

**Supporting–will be taught throughout the course as needed for the unit.**

- F1. Incorporate safety procedures in handling, operating, and maintaining tools and machinery; handling materials; utilizing personal protective equipment; maintaining a safe work area; and handling hazardous materials and forces.
- F2. Demonstrate effective workplace and employability skills, including communication, awareness of diversity, positive work ethic, problem-solving, time management, and teamwork.
- F3. Explore the range of careers available in the field and investigate their educational requirements, and demonstrate job-seeking skills including resume-writing and interviewing.
- F4. Advocate and practice safe, legal, responsible, and ethical use of information and technology tools specific to the industry pathway.
- F5. Participate in a Career and Technical Student Organization (CTSO) to increase knowledge and skills and to enhance leadership and teamwork.
- F6. Discuss and demonstrate ways to value diversity.

# Unit 2 Title: Hardware, Software, and Connectivity Technologies

## Content Standards

1. Identify networking components and explain their impact on web development.
2. Compare and contrast various input, processing, output, and storage devices and storage services.
3. Compare a range of current and emerging Internet protocols.
4. Describe recent trends in web technology and predict their impact on web development.

## Unpacked Learning Objectives

### Students know:

- Networking components and their impact on web development.
- Various input, processing, output, and storage devices and storage services.
- There is a range of current and emerging Internet protocols.
- Trends in web technology.
- How to predict their impact on web development.

### Students are able to:

- Compare and contrast networking components.
- Explain the impact of particular networking components on web development.
- Describe and identify various input, processing, output and storage devices and storage services.
- Differentiate between different Internet protocols.
- Identify trends in web technology.
- Forecast the impact of trends in web development.

### Students understand that:

- Networking components have an impact on web development.
- There is a range of input, processing, output and storage devices and storage services available.
- There are a wide variety of Internet protocols currently in use.
- Additional Internet protocols are added as technology changes.
- Web technology is a fast changing environment and some trends will have long term effects while others will be short lived.

<b>Unit Driving/Essential Question</b>	Why are internet protocols important in web design?
<b>Exemplar High Quality Unit Task</b>	Presentation about Internet protocols

# Map of Student Learning by Learning Objective

Unpacked Learning Objective SWBAT	Potential Subtasks for Assessments Formative/Summative	Potential Learning Activities  <a href="#">Learning Activity Checklist</a>  <a href="#">Link to Differentiation Examples</a>	Integrated and Related Academic Content: ELA, Math, Science, and/or Social Studies Concepts & Activities	Equipment, Technology & Materials  <a href="#">Equipment List by CTE Cluster</a>  <a href="#">Link to Helpful Tech Tools</a>
Students discuss networking components and explain their impact on web development.	Summative: Unit exam with multiple choice, fill-in-the blank  Formative: Observations of student progress - classwork rubric, class discussions, quizzes, exit slips	Introduce Vocabulary  Lecture/PPT/Discuss  <a href="https://digitalworld839.com/computer-network-components/">https://digitalworld839.com/computer-network-components/</a>  <a href="https://www.tutorialspoint.com/Computer-Network-Components">https://www.tutorialspoint.com/Computer-Network-Components</a>  Timeline of Computer History <a href="https://www.computerhistory.org/timeline/networking-the-web/">https://www.computerhistory.org/timeline/networking-the-web/</a>	ELA: Collaborative discussion, active listening  SS: Impact of technology on economy  SCI: Students will write a research paper on the history of computers and the invention of the internet.  ELA: Students will write a research paper on different networking components and explain their impact on web development.	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students discuss input, processing, output, and storage devices and storage media.	Summative: Unit exam with multiple choice, fill-in-the blank  Formative: Observations of student progress -	<a href="https://edu.qcglobal.org/en/search/?q=storage+#gsc.tab=0&amp;gsc.ref=english&amp;gsc.q=storage%20&amp;gsc.page=1">https://edu.qcglobal.org/en/search/?q=storage+#gsc.tab=0&amp;gsc.ref=english&amp;gsc.q=storage%20&amp;gsc.page=1</a>	ELA: Collaborative discussion, active listening, comprehending Informative/explanatory text	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

	classwork rubric, class discussions, quizzes, exit slips	<a href="https://edu.gcfglobal.org/en/computerbasics/inside-a-computer/1/">https://edu.gcfglobal.org/en/computerbasics/inside-a-computer/1/</a> <a href="https://edu.gcfglobal.org/en/subjects/hardware/">https://edu.gcfglobal.org/en/subjects/hardware/</a>		
Students discuss current and emerged Internet protocols.	Summative: Unit exam with multiple choice, fill-in-the blank  Formative: Observations of student progress - classwork rubric, class discussions, quizzes, exit slips	Introduce New Vocab  Lecture/Discussion  <a href="https://www.cloudflare.com/learning/network-layer/internet-protocol/">https://www.cloudflare.com/learning/network-layer/internet-protocol/</a>	ELA: Collaborative discussion, active listening, comprehending Informative/explanatory text  SS: Impact of technology on economy	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students discuss recent trends in web technology and predict their impact on web development.	Summative: Unit exam with multiple choice, fill-in-the blank  Formative: Observations of student progress - classwork rubric, class discussions, quizzes, exit slips	<a href="https://blog.hubspot.com/web-site/web-development-trends">https://blog.hubspot.com/web-site/web-development-trends</a>	ELA: Collaborative discussion, active listening  SS: Impact of technology on economy  MATH: Students analyze statistics of trends in web technology.	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

## Key Vocabulary

servers, clients, transmission media, hub, switch, router, Network Interface Card (NIC), modem, input device, output device, storage device, storage service, cloud services, processors, Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), telnet, email, Transmission Control Protocol/ Internet Protocol (TCP/IP), User Datagram Protocol/Internet Protocol (UDP/IP), chatbots, AI (Artificial Intelligence, voice search optimization, Progressive Web Application (PWA), Accelerated Mobile Pages (AMP)

## Work-Based Learning, Simulated Work Experiences, and Experiential Learning:

<https://www.academyoflearning.com/courses/web-practical-simulation/>

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# Unit 3 Title: Ethics, Security, and Application in Web Pages

## Content Standards

5. Demonstrate ethical use of technology and online resources.
  - 5a. Summarize intellectual property laws, including copyright, trademarks, and patents, and explain the consequences of violating each type of law.
6. Discuss the process of acquiring rights to use copyrighted and trademarked content in a website.
7. Explain the importance of information privacy and discuss ways to maintain it.
8. Describe the function, advantages, and disadvantages of non-disclosure agreements for individuals and companies.

## Unpacked Learning Objectives

### Students know:

- The ethical use of technology and online resources.
- There are laws that govern the use of intellectual property.
- The process of acquiring rights to use copyrighted and trademarked material.
- The importance of protecting information privacy.
- Ways to maintain information privacy.
- The function of non-disclosure agreements.
- The advantages and disadvantages of non-disclosure agreements.

### Students are able to:

- Identify the unethical use of technology and online resources.
- Define copyright.
- Define trademark.
- Define patent.
- Describe the consequences of violating intellectual property laws.
- Describe the process of acquiring rights to use copyrighted and trademarked content.
- Summarize the process of acquiring rights to use copyrighted and trademarked content.
- Explain why it is important to protect information privacy.
- Give examples of how to maintain it.
- Explain the purpose of a non-disclosure agreement.
- List the advantages and disadvantages of a non-disclosure agreement.

**Students understand that:**

- Technology and online resources can be used in unethical ways.
- It is important to be aware of intellectual property laws.
- There are legal and financial consequences for violating intellectual property laws.
- Web developers follow a set of standards governing the conduct, responsible actions, and practice within the web development community.
- Information privacy is protected by US and other laws.
- There are methods to help maintain information privacy.
- Non-disclosure agreements have a specific purpose.
- Non-disclosure agreements have both advantages and disadvantages.

<b>Unit Driving/Essential Question</b>	Why are ethics important when designing websites?
<b>Exemplar High Quality Unit Task</b>	Locating and using original and non-copyrighted materials for development of a website.

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Students discuss the ethical use of technology and online resources.	<p>Summative: Write an essay explaining the ethical use of technology and online resources</p> <p>Unit exam with multiple choice, fill-in-the-blank, and/or short answer questions</p> <p><a href="https://study.com/academy/practice/quiz-worksheet-classroom-technology-ethics.html">https://study.com/academy/practice/quiz-worksheet-classroom-technology-ethics.html</a></p> <p>Formative: Observations of student progress, classwork rubric, class discussions, quizzes, exit slips</p>	<p>Lecture/Discussion: <a href="https://study.com/academy/lesson/technology-ethics-in-the-classroom.html">https://study.com/academy/lesson/technology-ethics-in-the-classroom.html</a></p> <p><a href="https://www.youtube.com/watch?v=ngKGGogFKTI">https://www.youtube.com/watch?v=ngKGGogFKTI</a></p> <p><a href="http://juliehwest355.weebly.com/mini-lesson-1---ethical-use-of-information.html">http://juliehwest355.weebly.com/mini-lesson-1---ethical-use-of-information.html</a></p>	<p>ELA: Informative/explanatory writing</p> <p>SS: Business ethics</p>	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students discuss intellectual property laws, including copyright,	Summative: Develop a presentation explaining copyrights, trademarks and	<a href="https://edu.qcglobal.org/en/useinformationcorrectly/copyright-and-fair-use/1/">https://edu.qcglobal.org/en/useinformationcorrectly/copyright-and-fair-use/1/</a>	ELA: Visual presentations, Informative/explanatory writing	computer, projector, internet access, teacher made materials, exams,

<p>trademarks, and patents and the consequences of violating.</p>	<p>patents and consequences of violating. Present to class.</p> <p>Unit exam with multiple choice, fill-in-the-blank, and/or short answer questions</p> <p>Formative: Observations of student progress, classwork rubric, class discussions, quizzes, exit slips</p>	<p><a href="https://99designs.com/blog/tips/5-famous-copyright-infringement-cases/">https://99designs.com/blog/tips/5-famous-copyright-infringement-cases/</a></p>	<p>SS: Business laws</p>	<p>rubrics, answer keys, exit slips</p>
<p>Students explain in their own words the process of acquiring rights to use copyrighted and trademarked content in a website.</p>	<p>Summative: Unit exam with multiple choice, fill-in-the-blank, and/or short answer questions</p> <p>Formative: Observations of student progress, classwork rubric, class discussions, quizzes, exit slips</p>	<p>Lecture/Discussion</p> <p><a href="https://www.copyright.gov/circs/m10.pdf">https://www.copyright.gov/circs/m10.pdf</a></p> <p><a href="https://fairuse.stanford.edu/overview/website-permissions/websites/">https://fairuse.stanford.edu/overview/website-permissions/websites/</a></p>	<p>ELA: Collaborative discussion, Informative/explanatory writing</p> <p>SS: Business law</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>
<p>Students describe the importance of information privacy and discuss ways to maintain it.</p>	<p>Summative: Students will use Canva to create an informational flyer about privacy</p> <p>Unit exam with multiple choice, fill-in-the-blank, and/or short answer questions</p> <p>Formative: Observations of student progress, classwork rubric, class</p>	<p>Introduce Vocabulary</p> <p>Lecture/Discussion</p> <p><a href="https://teachingprivacy.org/module-2-theres-no-anonymity/">https://teachingprivacy.org/module-2-theres-no-anonymity/</a></p> <p><a href="https://mediasmarts.ca/sites/mediasmarts/files/pdfs/lesson-">https://mediasmarts.ca/sites/mediasmarts/files/pdfs/lesson-</a></p>	<p>ELA: Vocabulary use, Informative/explanatory writing, active listening</p> <p>SS: Business law</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>

	discussions, quizzes, exit slips	<a href="#">plan/Lesson_Privacy_Internet_Life.pdf</a> <a href="https://www.common sense.org/education/digital-citizenship/lesson/risk-check-for-new-tech">https://www.common sense.org/education/digital-citizenship/lesson/risk-check-for-new-tech</a>		
Students name the function, advantages, and disadvantages of non-disclosure agreements for individuals and companies.	Summative: Unit exam with multiple choice, fill-in-the-blank, and/or short answer questions  Formative: Observations of student progress, classwork rubric, class discussions, quizzes, exit slips	Lecture/Discussion  <a href="https://youtu.be/ztZ43clziK0">https://youtu.be/ztZ43clziK0</a>  <a href="https://www.forbes.com/sites/allbusiness/2016/03/10/the-key-elements-of-non-disclosure-agreements/?sh=133edd5627dd">https://www.forbes.com/sites/allbusiness/2016/03/10/the-key-elements-of-non-disclosure-agreements/?sh=133edd5627dd</a>  Students debate the advantages and disadvantages of NDA's	ELA: Informative/explanatory comprehension and writing, active listening,  SS: Business practices agreements  MATH: Students calculate the cost of implementing non-disclosure agreements.	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

## Key Vocabulary

ethics, right to privacy, intellectual property, intellectual property law, copyright, trademark, patent, copyright infringement, copyright, trademark, ethics, open source, information privacy, Secure socket layers (SSL), Hypertext Transfer Protocol Secure (HTTPS),, privacy laws, data collection consent, non-disclosure agreement

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# Unit 4 Title: Fundamentals of Web Design

## Content Standards

9. Incorporate functional design elements into web designs.
10. Identify, create, modify, and use common file formats.
11. Select, create, modify, and integrate effective digital content.
12. Create web pages using current web standards and web development skills.

## Unpacked Learning Objectives

### Students know:

- Functional design elements to include in web designs.
- How to identify, develop and alter common file formats.
- How to select, create, modify, and integrate effective digital content.
- How to generate web pages using current web standards and web development skills.

### Students are able to:

- Identify and use functional design elements in web designs.
- Recognize common file formats.
- Generate documents in common file formats.
- Revise documents in common file formats.
- Identify digital content.
- Develop digital content.
- Revise digital content.
- Incorporate effective digital content.
- Design and implement web pages using current web standards and web development skills.

### Students understand that:

- Functional design elements are important to the navigability of web designs.
- It is important to be able to identify, develop and adjust documents created using common file formats.
- The effective use of digital content includes knowing how to select, create, modify, and integrate content.
- Web pages should be created using current web standards and web development skills.

<b>Unit Driving/Essential Question</b>	Why is it important to use functional design elements in web design?
<b>Exemplar High Quality Unit Task</b>	Creation of web page <a href="https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:e15f784e-ec4f-3bb3-b9f5-fd10d10ff73f">https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:e15f784e-ec4f-3bb3-b9f5-fd10d10ff73f</a>

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Students demonstrate functional design elements in their web designs.	Summative: Website mock-up demonstrating design elements  Unit exam with multiple choice, fill-in-blank, and/or short answer questions  Formative: Observations of student work, exit slips, class discussions	<a href="https://www.clarity-ventures.com/blog/ten-key-elements-every-business-website-should-have-functionality-and-design-ed">https://www.clarity-ventures.com/blog/ten-key-elements-every-business-website-should-have-functionality-and-design-ed</a>	ELA: Informative/explanatory presentation using visual elements to share information, synthesis of research  SS: Business practices that impact the economy	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students recognize and use common file formats.	Summative: Students create a chart with common file formats  Unit exam with multiple choice, fill-in-the-blank, and/or short answer questions.  Formative: Observations of student progress, classwork rubric, class	Lecture: <a href="https://edu.qcglobal.org/en/basic-computer-skills/understanding-file-extensions/1/">https://edu.qcglobal.org/en/basic-computer-skills/understanding-file-extensions/1/</a>  <a href="https://www.youtube.com/watch?v=68GD6oiqLL0">https://www.youtube.com/watch?v=68GD6oiqLL0</a>  <a href="https://it.nmu.edu/docs/common-windows-file-extensions">https://it.nmu.edu/docs/common-windows-file-extensions</a>	ELA: Informative/explanatory comprehension and writing	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

	discussions, quizzes, exit slips			
Students identify, develop, update and include effective digital content.	<p>Summative: Students create their own memes</p> <p>Unit exam with multiple choice, fill in blank, and/or short answer questions</p> <p>Formative: Observations of student progress, classwork rubric, class discussions, quizzes, exit slips</p>	<p>Lecture/Discussion</p> <p><a href="https://www.zazzlemedia.co.uk/blog/digital-content-types/#gref">https://www.zazzlemedia.co.uk/blog/digital-content-types/#gref</a></p>	<p>ELA: Informative/explanatory writing</p> <p>SS: Business practices</p>	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students design web pages using current web standards and web development skills	<p>Summative: Creation of web pages</p> <p>Formative: Observations of student progress</p>	<p>Lecture/Discussion/Demonstration</p> <p><a href="https://www.txcte.org/resources/lesson-plan-introduction-basic-webpage-design">https://www.txcte.org/resources/lesson-plan-introduction-basic-webpage-design</a></p> <p><a href="https://websitebuilders.com/how-to/lesson-plans/web-pages/">https://websitebuilders.com/how-to/lesson-plans/web-pages/</a></p>	<p>ELA: Informative/explanatory writing, use of visuals to clarify information</p> <p>SS: Business practices</p>	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

## Key Vocabulary

proximity, repetition, contrast, alignment, color theory, color contrast, consistency, image file size, typography, Text File Formats (PDF, .DOC, ODT, .TXT), Image File Formats (.JPG, .TIFF, .PNG), Video File Formats (.MP4, .MOV, .AVI, .WMV), Audio File Formats (.MP3, .WAV), vector based graphics, raster based graphics, motion graphics, video, audio, version control, documentation, web application security, validation, accessibility, compatibility across platforms

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# Unit 5 Title: Fundamentals of Web Programming

## Content Standards

13. Differentiate among various web coding standards.
14. Use standard applications to develop web applications.
15. Explain client-server applications and describe the process of a client-server transaction.
16. Identify the advantages and disadvantages of client-side processing.
17. Use standard scripting languages to produce interactive web applications.
18. Apply tags, embed links, manipulate space, customize attributes, and incorporate style elements related to typography, margins and spanning, and padding.
19. Summarize the functions of plug-ins for content management systems and static websites.

## Unpacked Learning Objectives

### Students know:

- Differences among web coding standards.
- How to use standard applications to develop applications for the web.
- What a client-server application is.
- How to describe the process of a client-server transaction.
- The advantages and disadvantages of client-side processing.
- How to generate interactive web applications from standard scripting languages.
- How to utilize basic web design elements and design principles.
- The functions of plug-ins for content management systems and static websites.

### Students are able to:

- Compare and contrast different web coding standards.
- Create web applications using standard applications.
- Describe a client-server application.
- Explain the process of a client-server transaction.
- Describe the advantages and disadvantages of client-side processing.

- Create interactive web applications from standard scripting languages.
- Employ tags.
- Use links.
- Manipulate basic style elements and attributes including spacing, typography and margins.
- Define plug-in.
- Give examples of when they may be used.

**Students understand that:**

- Different web coding standards have different applications.
- They can develop web applications using standard applications.
- A client-server application is a distributed application in which the server provides a function to many “clients”.
- It is important to consider the advantages and disadvantages before using client-side processing.
- It is possible to develop interactive web applications using standard scripting languages.
- Links and tags are basic elements of web pages.
- They need to be able to customize attributes of web pages to manipulate space and to incorporate style.
- Plug-ins are computer software that adds new functions to a host program without altering the host program itself.

<b>Unit Driving/Essential Question</b>	What are the benefits of using scripting languages when writing web pages?
<b>Exemplar High Quality Unit Task</b>	Completion of Code Academy Scripting Language Lessons <a href="https://www.codecademy.com/">https://www.codecademy.com/</a>

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Students compare various web coding standards.	Summative: Unit exam with multiple choice, fill in blank, and/or short answer questions  Create Venn diagram comparing web coding standards  Formative: Observations of student work	Lecture/Discussion  <a href="https://wdexplorer.com/web-coding-standards/#:~:text=Created%20by%20the%20World%20Wide,the%20diverse%20Orange%20of%20devices.">https://wdexplorer.com/web-coding-standards/#:~:text=Created%20by%20the%20World%20Wide,the%20diverse%20Orange%20of%20devices.</a>	ELA: Compare/contrast, Informative/explanatory writing and comprehending  SS: Business practices	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students employ standard applications to develop web applications.	Summative: Unit exam with multiple choice, fill in blank, and/or short answer questions  Formative: Observations of student progress –class discussions, peer reviews	Lecture/Discussion  <a href="https://www.w3.org/standards/webdesign/">https://www.w3.org/standards/webdesign/</a>	ELA: Informative/explanatory writing  SS: Business practices	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students describe client-server applications and explain the process of a	Summative: Unit exam with multiple choice, fill in blank,	Lecture/Discussion:	ELA: Informative/explanatory	computer, projector, internet access, teacher made materials, exams,

<p>client-server transaction.</p>	<p>and/or short answer questions Formative: Observations of student progress –class discussions, peer reviews</p>	<p><a href="https://study.com/learn/lesson/client-server-network-examples.html">https://study.com/learn/lesson/client-server-network-examples.html</a> <a href="https://www.techopedia.com/definition/16211/transaction-server">https://www.techopedia.com/definition/16211/transaction-server</a>  <a href="http://aagasc.edu.in/cs/books/client-server-computing.pdf">http://aagasc.edu.in/cs/books/client-server-computing.pdf</a></p>	<p>writing, active listening for information SS: Business practices</p>	<p>rubrics, answer keys, exit slips</p>
<p>Students give examples of the advantages and disadvantages of client-side processing.</p>	<p>Summative: Students debate the advantages and disadvantages of client-side processing  Unit exam with multiple choice, fill in blank, and/or short answer questions  Formative: Observations of student progress –class discussions, peer reviews</p>	<p>Lecture/Discussion:  <a href="https://www.teach-ict.com/2016/A_Level_Computing/OCR_H446/1_3_exchanging_data/134_processing/miniweb/pg2.php#:~:text=Client%20side%20processing%20means%20that,this%20kind%20of%20processing%20code.">https://www.teach-ict.com/2016/A_Level_Computing/OCR_H446/1_3_exchanging_data/134_processing/miniweb/pg2.php#:~:text=Client%20side%20processing%20means%20that,this%20kind%20of%20processing%20code.</a>  <a href="https://www.teach-ict.com/2016/A_Level_Computing/OCR_H446/1_3_exchanging_data/134_processing/miniweb/pg3.php">https://www.teach-ict.com/2016/A_Level_Computing/OCR_H446/1_3_exchanging_data/134_processing/miniweb/pg3.php</a></p>	<p>ELA: Informative/explanatory writing and comprehension,  SS: Business practices</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>
<p>Students utilize standard scripting languages to produce interactive web applications.</p>	<p>Summative: Students choose a scripting language to create a web page  <a href="https://www.codecademy.com/">https://www.codecademy.com/</a></p>	<p>Lecture/Discussion/Demonstration  <a href="https://www.spinxdigital.com/blog/common-web-design-languages-what-they-do-and-why-you-need-them/">https://www.spinxdigital.com/blog/common-web-design-languages-what-they-do-and-why-you-need-them/</a></p>	<p>ELA: Informative/explanatory writing and comprehension,  SS: Business practices</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>

	Formative: Observations of student progress	<a href="https://docs.microsoft.com/en-us/dotnet/architecture/modern-web-apps-azure/common-client-side-web-technologies">https://docs.microsoft.com/en-us/dotnet/architecture/modern-web-apps-azure/common-client-side-web-technologies</a> <a href="https://www.brighthubeducation.com/science-lessons-grades-9-12/100131-lesson-plan-on-web-page-design/">https://www.brighthubeducation.com/science-lessons-grades-9-12/100131-lesson-plan-on-web-page-design/</a>		
Students can employ common web page elements such as tags and links and also are able to customize style elements and attributes.	Summative: Students use tags and links to enhance website  Formative: Observations of student progress	Lecture/Discussion/Demo  <a href="https://manual.pencilcode.net/home/pdf/111-Chapter11.pdf">https://manual.pencilcode.net/home/pdf/111-Chapter11.pdf</a>	ELA: Informative/explanatory writing and comprehension, using visual elements to inform  SS: Business practices, human behavior  MATH: Students count up how many tags they have learned, and create a chart telling what each one does.	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students explain the functions of plug-ins for content management systems and static websites.	Summative: Unit exam with multiple choice, fill in blank, and/or short answer questions  Formative: Observations of student progress-exit slips, peer reviews	Discuss "What is a Plug-In?"  <a href="https://etc.usf.edu/techease/win/internet/what-is-a-plugin-how-do-i-install-it/#:~:text=A%20plugin%20is%20a%20piece,not%20originally%20designed%20to%20display.">https://etc.usf.edu/techease/win/internet/what-is-a-plugin-how-do-i-install-it/#:~:text=A%20plugin%20is%20a%20piece,not%20originally%20designed%20to%20display.</a>	ELA: Informative/explanatory writing and comprehension  SS: Business practices	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

## Key Vocabulary

HyperText Markup Language (HTML), Cascading style Sheets (CSS), JavaScript, text based editing programs, word processors, web authoring software, client-server applications, client-server model, thick client, thin client, hybrid client, server-side processing, client-side processing, web application, scripting language, JavaScript, PHP, Ruby, Python, tags, links, typography, layout, plug-in, content management system, static website

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<https://www.academyoflearning.com/courses/web-practical-simulation/>

## CTSO Connection:

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## Certification/Credential Connection:

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# Unit 6 Title: Web Page Servers and Hosting

## Content Standards

20. Compare the advantages and disadvantages of running a personal server instead of using a server provider, including cloud/virtual server.
21. Explain the process of constructing secure transaction interfaces from the web server to the customer.
22. Explain the Transmission Control Protocol/Internet Protocol.
23. Describe the process of establishing a domain name, server backup, and restoration of software features.
24. Evaluate web page security measures.

## Unpacked Learning Objectives

### Students know:

- The advantages and disadvantages of personal server
- The advantages and disadvantages of using a server provider.
- The process of constructing secure transaction interfaces from the web server to the customer.
- Transmission Control Protocol/Internet Protocol.
- The process of establishing a domain name.
- How to provide for a server backup and restoration of software features.
- Web page security measures.

### Students are able to:

- Evaluate the differences between choosing a personal server and using a server provided.
- Describe the process of constructing secure transaction interfaces from the web server to the customer.
- Describe Transmission Control Protocol/Internet Protocol.
- Demonstrate establishing a domain name.
- Plan how to provide for server backup and restoration of software features.
- Assess web page security measures.

### Students understand that:

- When choosing which type of server to employ there are advantages and disadvantages of both personal servers and server providers that need to be considered.
- Constructing a secure transaction interface is an integral part of maintaining customer privacy and security.

- TCP/IP provides the software “backbone” of the Internet allowing devices to connect with each other.
- Choosing and selecting a domain name requires purchasing an available name from a Domain Registrar or from another entity who has previously purchased the domain name.
- It is important to provide for server backup and restoration of software features in order to retain continuity of a web site.
- Web page security measures should be included in web page design.

<b>Unit Driving/Essential Question</b>	Why are security measures important when designing a web site?
<b>Exemplar High Quality Unit Task</b>	Presentation on web-security measures

# Map of Student Learning by Learning Objective

Unpacked Learning Objective SWBAT	Potential Subtasks for Assessments Formative/Summative	Potential Learning Activities  <a href="#">Learning Activity Checklist</a>  <a href="#">Link to Differentiation Examples</a>	Integrated and Related Academic Content: ELA, Math, Science, and/or Social Studies Concepts & Activities	Equipment, Technology & Materials  <a href="#">Equipment List by CTE Cluster</a>  <a href="#">Link to Helpful Tech Tools</a>
Students discuss the advantages and disadvantages of running a personal server instead of using a server provider, including cloud/virtual server.	Summative: Unit exam with multiple choice, fill in blank, and/or short answer questions  Formative: Observations of student progress - class discussions, exit slips	Lecture/Discussion  <a href="https://www.caorda.com/blog/pros-cons-local-dedicated-servers-vs-cloud-service-based-hosting/">https://www.caorda.com/blog/pros-cons-local-dedicated-servers-vs-cloud-service-based-hosting/</a>  <a href="https://blogs.tcsusa.com/cloud-vs.-in-house-servers-which-is-the-best-option-for-your-business">https://blogs.tcsusa.com/cloud-vs.-in-house-servers-which-is-the-best-option-for-your-business</a>  <a href="https://blog.ideacafe.com/advantages-and-disadvantages-hosting-your-own-website">https://blog.ideacafe.com/advantages-and-disadvantages-hosting-your-own-website</a>	ELA: Informative/explanatory writing and comprehension  SS: Business practices	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students discuss the process of constructing secure transaction infaces from the web server to the customer.	Summative: Unit exam with multiple choice, fill in blank, and/or short answer questions	Lecture/Discussion	ELA: Informative/explanatory writing and comprehension  SS: Business practices	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

	Formative: Observations of student progress - class discussions, exit slips			
Students discuss the Transmission Control Protocol/Internet Protocol.	<p>Summative: <a href="https://www.khanacademy.org/computing/computers-and-internet/xcae6f4a7ff015e7d:the-internet/xcae6f4a7ff015e7d:transporting-packets/e/transmission-control-protocol--tcp-">https://www.khanacademy.org/computing/computers-and-internet/xcae6f4a7ff015e7d:the-internet/xcae6f4a7ff015e7d:transporting-packets/e/transmission-control-protocol--tcp-</a></p> <p>Formative: Observations of student progress, class discussions, exit slips</p>	<p><a href="https://www.khanacademy.org/computing/computers-and-internet/xcae6f4a7ff015e7d:the-internet/xcae6f4a7ff015e7d:transporting-packets/a/the-problems-with-packets">https://www.khanacademy.org/computing/computers-and-internet/xcae6f4a7ff015e7d:the-internet/xcae6f4a7ff015e7d:transporting-packets/a/the-problems-with-packets</a></p> <p><a href="https://www.khanacademy.org/computing/computers-and-internet/xcae6f4a7ff015e7d:the-internet/xcae6f4a7ff015e7d:transporting-packets/a/transmission-control-protocol--tcp">https://www.khanacademy.org/computing/computers-and-internet/xcae6f4a7ff015e7d:the-internet/xcae6f4a7ff015e7d:transporting-packets/a/transmission-control-protocol--tcp</a></p>	<p>ELA: Informative/explanatory writing and comprehension</p> <p>SS: Business practices</p> <p>MATH: Students identify the relationship between numbers and IP addresses.</p>	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students explain the process of establishing a domain name, server backup, and restoration of software features.	<p>Summative: Unit exam with multiple choice, fill in the blank, and/or short answer questions</p> <p>Formative: Observations of student progress-classwork rubric, class discussions, quizzes, exit slips</p>	<p>Lecture/Discussion</p> <p><a href="https://www.khanacademy.org/computing/ap-computer-science-principles/the-internet/x2d2f703b37b450a3:web-protocols/a/the-world-wide-web">https://www.khanacademy.org/computing/ap-computer-science-principles/the-internet/x2d2f703b37b450a3:web-protocols/a/the-world-wide-web</a></p> <p><a href="https://www.khanacademy.org/computing/ap-computer-science-principles/the-internet/x2d2f703b37b450a">https://www.khanacademy.org/computing/ap-computer-science-principles/the-internet/x2d2f703b37b450a</a></p>	<p>ELA: Informative/explanatory writing and comprehension</p> <p>SS: Business practices</p>	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

		<a href="https://www.serverwatch.com/guides/server-backup/">3:web-protocols/a/domain-name-system-dns-protocol</a> <a href="https://www.serverwatch.com/guides/server-backup/">https://www.serverwatch.com/guides/server-backup/</a>		
Students describe web page security measures.	<p>Summative:  <a href="https://www.nagwa.com/en/worksheets/297182176154/">https://www.nagwa.com/en/worksheets/297182176154/</a>  Unit exam with multiple choice, fill-in-blank, and/or short answer questions</p> <p>Presentations: Students will present information to the class on how to keep web page safe</p> <p>Formative: Observations of student progress-classwork, class discussions, quizzes, exit slips</p>	<p>Lecture/Discussion</p> <p><a href="https://www.digitalwish.com/dw/digitalwish/view_less_on_plans?id=7137">https://www.digitalwish.com/dw/digitalwish/view_less_on_plans?id=7137</a></p> <p><a href="https://www.cerias.purdue.edu/site/education/k-12/teaching_resources/lessons_presentations/">https://www.cerias.purdue.edu/site/education/k-12/teaching_resources/lessons_presentations/</a></p> <p><a href="https://www.nagwa.com/en/plans/843101379878/">https://www.nagwa.com/en/plans/843101379878/</a></p>	<p>ELA:  Informative/explanatory writing and comprehension  SS: Business practices</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>

## Key Vocabulary

server, cloud/virtual server, server provider, Secure Electronic Transaction (SET), Certification Authority (CA), payment gateway, merchant server, cardholder application, digital wallet, digital certificate, digital wallet, Transmission Control Protocol/Internet Protocol (TCP/IP), IP address, IP routing, Internet, domain name, domain name registration, top level domain, remote backup server, local backup, full backup, differential backup, incremental backup, recovery plan, firewall, Secure Socket Layer (SSL), Hypertext Transfer Protocol Secure (HTTPS), Virtual Private Network (VPN)

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# Unit 7 Title: Basic Troubleshooting and Validation

## Content Standards

25. Apply basic troubleshooting strategies to resolve errors in syntax, fix broken links, edit distorted images, and align websites.
26. Analyze methods of performing code validation on a completed or in-progress web page.
  - 26a. Validate code for compatibility across browsers and devices.

## Unpacked Learning Objectives

### Students know:

- Basic troubleshooting strategies to resolve web page errors.
- How to perform code validation on a completed or in-progress web page.
- How to test code for compatibility across browsers and devices.

### Students are able to:

- Demonstrate basic troubleshooting strategies to resolve errors in syntax, fix broken links, edit distorted images, and align website.
- Critique methods of performing code validation on a completed or in-progress web page.
- Demonstrate the process for validating code for compatibility across browsers and devices.

### Students understand that:

- They need to be able to employ strategies to identify and fix issues such as errors in syntax, broken links, distorted images and alignment.
- It is important to validate website code to ensure proper function.
- Website validation can be performed on in-progress sites or to address issues with already completed websites.
- Good website design involves checking code for compatibility across devices to ensure that page visitors do have access issues.

<b>Unit Driving/Essential Question</b>	Why is code validation important?
<b>Exemplar High Quality Unit Task</b>	Webpage passes compatibility test

# Map of Student Learning by Learning Objective

Unpacked Learning Objective SWBAT	Potential Subtasks for Assessments Formative/Summative	Potential Learning Activities  <a href="#">Learning Activity Checklist</a>  <a href="#">Link to Differentiation Examples</a>	Integrated and Related Academic Content: ELA, Math, Science, and/or Social Studies Concepts & Activities	Equipment, Technology & Materials  <a href="#">Equipment List by CTE Cluster</a>  <a href="#">Link to Helpful Tech Tools</a>
Students use basic troubleshooting strategies to resolve errors in syntax, fix broken links, edit distorted images, and align website	Summative: Students practice editing images and explain how it was done  Unit exam with multiple choice, fill-in-blank, and/or short answer questions  Formative: Observations of student progress	Lecture/Discussion:  <a href="http://cambridgeqcsecomp uting.org/sites/94/upload/ u serfiles/217p q teachersn otes editedct 3proof.pdf">http://cambridgeqcsecomp uting.org/sites/94/upload/ u serfiles/217p q teachersn otes editedct 3proof.pdf</a>  <a href="https://edu.qcglobal.org/en /internet-tips/tips-for-fixing- broken-links/1/">https://edu.qcglobal.org/en /internet-tips/tips-for-fixing- broken-links/1/</a>  <a href="https://www.techwalla.com/ articles/how-to-fix-syntax- errors">https://www.techwalla.com/ articles/how-to-fix-syntax- errors</a>  <a href="https://edu.qcglobal.org/en /imageediting101/making- basic-adjustments/1/">https://edu.qcglobal.org/en /imageediting101/making- basic-adjustments/1/</a>	ELA: Informative/explanatory writing and comprehension, editing process, use visuals to display information  SS: Business practices, determine loss caused by website errors	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students examine methods of performing code validation on a completed or in-progress web page.	Summative: Students use compatibility checkers to check code for issues	Lecture/Discussion  <a href="https://www.w3.org/WAI/tut orials/forms/validation/">https://www.w3.org/WAI/tut orials/forms/validation/</a>	ELA: Informative/explanatory writing and comprehension  SS: Business practices	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

	<p>Unit exam with multiple choice, fill-in-blank, and/or short answer questions</p> <p>Formative: Observations of student progress</p>	<p><a href="https://www.browseemail.com/Compatibility/ValidateHTML">https://www.browseemail.com/Compatibility/ValidateHTML</a></p>		
<p>Students check code for compatibility across browsers and devices.</p>	<p>Summative: Unit exam with multiple choice, fill-in-blank, and/or short answer questions</p> <p>Unit project incorporating all learned skills and concepts - developing a website</p> <p>Formative: Observations of student progress-classwork, class discussions, exit slips</p>	<p>Lecture/Discussion: <a href="https://www.softwaretestinghelp.com/best-cross-browser-testing-tools-to-ease-your-browser-compatibility-testing-efforts/">https://www.softwaretestinghelp.com/best-cross-browser-testing-tools-to-ease-your-browser-compatibility-testing-efforts/</a></p> <p><a href="https://developer.mozilla.org/en-US/docs/Learn/Tools_and_testing/Cross_browser_testing/Introduction">https://developer.mozilla.org/en-US/docs/Learn/Tools_and_testing/Cross_browser_testing/Introduction</a></p> <p>Complete lesson in Codecademy: <a href="https://www.codecademy.com/learn/learn-intermediate-css/modules/browser-compatibility">https://www.codecademy.com/learn/learn-intermediate-css/modules/browser-compatibility</a></p>	<p>ELA: Informative/explanatory writing and comprehension, editing process</p> <p>SS: Business practices</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>

## Key Vocabulary

link, syntax, Cascading Style Sheets (CSS), HTML, HTML validator, CSS validator, W3C's HTML Validation Service, feeds validation, browser, cross browser compatibility, Internet explorer, Firefox, Google Chrome, Safari, Iphone, Android

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# Unit 8 Title: Impact of Computing

## Content Standards

27. Identify ways that technology and the Internet have changed traditional ways of doing business, interacting with others, and 27a. Debate the positive and negative effects of the Internet on personal, ethical, social, economic, and cultural spheres.
28. Determine how technology is impacting traditional career pathways and decide which have been most affected, both positively
29. Identify ways that humans and technology must work together as partners in web design to solve problems and determine which

## Unpacked Learning Objectives

### Students know:

- That technology and the Internet have changed traditional ways of doing business.
- The positive and negative effects of the Internet on personal, ethical, social, economic, and cultural spheres.
- Technology is impacting traditional career pathways.
- Humans and technology must work together as partners in web design.

### Students are able to:

- Give examples of how technology and the Internet have changed traditional ways of doing business.
- Evaluate the positive and negative effects of the Internet on personal, ethical, social, economic, and cultural spheres.
- Give examples of how technology is impacting traditional career pathways.
- Explain how humans and technology can work together as partners in web design.

### Students understand that:

- Technology and the Internet have introduced new ways to conduct business and interact with others.
- The Internet has positive and negative effects on personal, ethical, social, economic and cultural spheres.
- Changes in technology can affect all career pathways.
- Good web design requires that humans and technology work together to identify and solve problems.

<b>Unit Driving/Essential Question</b>	How has technology changed the business world?
<b>Exemplar High Quality Unit Task</b>	Class debate on how technology has impacted the workforce - pros and cons

## Map of Student Learning by Learning Objective

Unpacked Learning Objective SWBAT	Potential Subtasks for Assessments Formative/Summative	Potential Learning Activities  <a href="#">Learning Activity Checklist</a>  <a href="#">Link to Differentiation Examples</a>	Integrated and Related Academic Content: ELA, Math, Science, and/or Social Studies Concepts & Activities	Equipment, Technology & Materials  <a href="#">Equipment List by CTE Cluster</a>  <a href="#">Link to Helpful Tech Tools</a>
Students discuss ways that technology and the Internet have changed traditional ways of doing business.	Summative: Unit exam with multiple choice, fill-in-blank, and /or short answer questions  Formative: Observations of student progress-class discussions, exit slips	Lecture/Discussion:  <a href="https://study.com/academy/lesson/the-internets-impact-on-business-operations-interactions.html">https://study.com/academy/lesson/the-internets-impact-on-business-operations-interactions.html</a>  <a href="https://study.com/academy/lesson/how-technology-helps-achieve-business-success.html">https://study.com/academy/lesson/how-technology-helps-achieve-business-success.html</a>  <a href="https://study.com/academy/lesson/ethical-issues-in-managing-technology-in-business.html">https://study.com/academy/lesson/ethical-issues-in-managing-technology-in-business.html</a>  <a href="https://studylib.net/doc/13964468/%E2%80%93why-a-virtual-business%3F-lesson-plan">https://studylib.net/doc/13964468/%E2%80%93why-a-virtual-business%3F-lesson-plan</a>	ELA: Informative/explanatory writing and comprehension, active listening, collaborative discussions  SS: Business practices, impact of technology on business success and global economy	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

<p>Students discuss the positive and negative effects of the Internet on personal, ethical, social, economic, and cultural spheres.</p>	<p>Summative: Unit exam with multiple choice, fill-in-blank, and /or short answer questions</p> <p>Formative: Observations of student progress-class discussions, exit slips</p>	<p><a href="https://thriveglobal.com/stories/the-positive-and-negative-effects-of-the-internet-on-our-daily-lives/">https://thriveglobal.com/stories/the-positive-and-negative-effects-of-the-internet-on-our-daily-lives/</a></p>	<p>ELA: Informative/explanatory writing and comprehension, active listening, collaborative discussions</p> <p>SS: Business practices, impact of Internet on business success and global economy</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>
<p>Students discuss how technology is impacting traditional career pathways and decide which have been most affected.</p>	<p>Summative: Unit exam with multiple choice, fill-in-blank/ and/or short answer questions</p> <p>Formative: Observations of student progress-class discussions, exit slips</p>	<p><a href="http://career.iresearchnet.com/career-development/technology-and-careers/">http://career.iresearchnet.com/career-development/technology-and-careers/</a></p>	<p>ELA: Informative/explanatory writing and comprehension, active listening, collaborative discussions</p> <p>SS: Business practices, impact of technology on business success, unemployment, and the global economy</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>
<p>Students discuss ways that humans and technology must work together as partners in web design.</p>			<p>ELA: Informative/explanatory writing and comprehension, active listening, collaborative discussions</p> <p>SS: Business practices, impact of technology on business success and global economy, human behavior</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>



## Key Vocabulary

online transactions, mobile transactions, email, apps, social media, social media, Internet, cybercrime, cyberbullying, ecommerce, mobile , commerce, remote work, work from home, productivity, work life balance, Artificial Intelligence (AI), chatbots

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FBLA Competitive Events - Web Design

## Certification/Credential Connection:

Adobe Certified Associate (ACA) – Photoshop / Dreamweaver / Premier Pro / InDesign / Illustrator, ASK Institute – Concepts of Entrepreneurship and Management / Fundamental Business Concepts, Certiport- Entrepreneurship and Small Business (must hold concentrator status), IC3 Global Standard 6 (or higher), Microsoft Office Expert 2019/365 - Access / Excel / Word, Microsoft Office Specialist 2019/365 (MOS) (Two of the following areas REQUIRED: Excel Associate / Outlook Associate / PowerPoint Associate / Word Associate)

# Unit 9 Title: Design Process

## Content Standards

30. Use the design thinking process to design websites with fair and equitable content and incorporate feedback based on testing
31. Use technology during the design process to collaborate with others, including peers, experts, and/or stakeholders, to exami
32. Research multiple website publishing platforms to determine their suitability for various media types, target audiences, and feedback mechanisms.
  - 32a. Communicate professionally to meet the needs of the audience.
  - 32b. Collaborate as part of a diverse team, using office or team norms.
33. Analyze user-centered design principles in various models of web design.

## Unpacked Learning Objectives

### Students know:

- The design thinking process to design websites.
- How to use technology during the design process for collaboration.
- How to investigate website publishing platforms to determine their suitability for various media types, target audiences, and feedback mechanisms.
- How to communicate professionally.
- How to work as part of a diverse team.
- User-centered design principles in various models of web design.

### Students are able to:

- Employ the design thinking process to design websites.
- Incorporate technology in the design process in order to collaborate with others.
- Evaluate website publishing platforms to determine their suitability.
- Communicate professionally to meet the needs of the audience.
- Work as part of a diverse team.
- Employ user-centered design principles in various models of web design.

### Students understand that:

- Making use of the design thinking process will provide for a better designed website.
- Technology can make it easier to collaborate with peers, experts, and stakeholders during the design process to get their feedback.

- Various website publishing platforms have different capacity and options so it is important to select the one most appropriate for the given project.
- Professional communication with the audience is a vital part of the design process.
- They need to be aware of the intended audience when using jargon and acronyms to ensure they are understood.
- Being able to work with others as part of a diverse team is part of the design process.
- The design process should focus on user-centered design principles to ensure that the design works for the intended audience.

<b>Unit Driving/Essential Question</b>	Why should designers use the design thinking process when developing websites?
<b>Exemplar High Quality Unit Task</b>	Creation of website with use of design thinking process

# Map of Student Learning by Learning Objective

Unpacked Learning Objective SWBAT	Potential Subtasks for Assessments Formative/Summative	Potential Learning Activities  <a href="#">Learning Activity Checklist</a>  <a href="#">Link to Differentiation Examples</a>	Integrated and Related Academic Content: ELA, Math, Science, and/or Social Studies Concepts & Activities	Equipment, Technology & Materials  <a href="#">Equipment List by CTE Cluster</a>  <a href="#">Link to Helpful Tech Tools</a>
Students practice the design thinking process to design websites with fair and equitable content and incorporate feedback based on testing.	<p>Summative: Create a website - unit project</p> <p>Unit exam with multiple choice, fill-in-blank, and/or short answer questions</p> <p>Formative: Observations of student progress-classwork rubric, class discussions, exit slips, peer reviews</p>	<p>Lecture/Discussion</p> <p><a href="https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process">https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process</a></p> <p><a href="https://www.commonsense.org/education/lesson-plans/introduction-into-design-thinking">https://www.commonsense.org/education/lesson-plans/introduction-into-design-thinking</a></p> <p><a href="https://orise.orau.gov/resources/k12/documents/lesson-plans/design-a-game.pdf">https://orise.orau.gov/resources/k12/documents/lesson-plans/design-a-game.pdf</a></p> <p><a href="https://aptv.pbslearningmedia.org/collection/the-design-process/">https://aptv.pbslearningmedia.org/collection/the-design-process/</a></p> <p><a href="https://www.webascender.com/blog/using-design-thinking-to-create-human-centered-">https://www.webascender.com/blog/using-design-thinking-to-create-human-centered-</a></p>	<p>ELA: Informative/explanatory writing and comprehension, use of visual design to share information</p> <p>SS: Business practices</p>	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

		<a href="#">websites/#:~:text=Design%20Thinking%20is%20an%20Approach,needs%20and%20effectively%20fulfill%20them.&amp;text=Design%20Thinking%20consists%20of%20five,Ideate%2C%20Prototype%2C%20and%20Test.</a>		
Students employ technology during the design process to collaborate with others.	Summative: Development of website  Formative: Observations of student progress	Lecture/Discussion/Group work	ELA: Active listening, collaborative discussions  SS: Business practices, human behavior	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students investigate multiple website publishing platforms to determine their suitability for various media types, target audiences, and	Summative: Students present to class pros/cons of various website publishing platforms  Unit exam with multiple choice, fill-in-blank, and/or short answer questions  Formative: Observations of student progress - classwork rubric, class discussions, exit slips, peer reviews	Lecture/Discussion  Research website publishing platforms  <a href="https://dev.to/0xbanana/easy-and-free-ways-to-publish-a-website-in-2020-44lo">https://dev.to/0xbanana/easy-and-free-ways-to-publish-a-website-in-2020-44lo</a>  <a href="https://www.tooltester.com/en/blog/best-free-website-builders/">https://www.tooltester.com/en/blog/best-free-website-builders/</a>	ELA: Informative/explanatory writing and comprehension, synthesis of research  SS: Business practices, human behavior  MATH:Students analyze the statistics of various website publishing platforms.	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students employ professional communication to meet the needs of the audience.	Summative: Student speech describing needs of audience for their website  Formative: Observations of classwork, classwork	<a href="https://www.creativebloq.com/design/online-collaboration-tools-912855">https://www.creativebloq.com/design/online-collaboration-tools-912855</a>	ELA: Active listening, collaborative discussions  SS: Business practices, human behavior	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

	rubrics, exit slips, class discussions			
Students work as part of a diverse team, using office of team norms.	<p>Summative: Use a collaboration tool to develop a class website on a particular topic</p> <p>Formative: Observations of classwork, classwork rubrics, exit slips, class discussions</p>	<p>Lecture/Discussion:</p> <p><a href="https://pantheon.io/blog/online-collaboration-tools">https://pantheon.io/blog/online-collaboration-tools</a></p>	<p>ELA: Active listening, collaborative discussions</p> <p>SS: Business practices, human behavior</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>
Students evaluate user-centered design principles in various models of web design.	<p>Summative: Students evaluate various websites identifying design principles for user-centered examples</p>	<p>Lecture/Discussion:</p> <p><a href="https://xd.adobe.com/ideas/principles/human-computer-interaction/user-centered-design/">https://xd.adobe.com/ideas/principles/human-computer-interaction/user-centered-design/</a></p> <p><a href="https://www.crazyegg.com/blog/principles-website-usability/">https://www.crazyegg.com/blog/principles-website-usability/</a></p>	<p>ELA: Synthesis of information (research literacy)</p> <p>SS: Business practices, human behavior</p>	<p>computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips</p>

## Key Vocabulary

feedback, design thinking process, screen sharing, prototyping, document sharing, website publishing platform, eCommerce, plug-ins, host bandwidth, email etiquette, netiquette, jargon, acronyms, team forming, diversity, user-centered design principles

## Work-Based Learning, Simulated Work Experiences, and Experiential Learning:

<https://www.academyoflearning.com/courses/web-practical-simulation/>

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# Unit 10 Title: Data

## Content Standards

- 34. Use analytics tools to identify patterns in website visits and audience behavior.
- 35. Create data visualizations to share insight on website user behavior with the client.

## Unpacked Learning Objectives

### Students know:

- Analytics tools can be used to identify patterns in website visits and audience behavior.
- How to design data visualizations to share insight on website user behavior with the client.

### Students are able to:

- Utilize analytics tools to identify patterns in website visits and audience behavior.
- Produce data visualizations to share insight on website user behavior with the client.

### Students understand that:

- Analytics tools are used to identify patterns in website visits and audience behavior.
- Data produced from analytics tools can be incorporated into improving the website design and functionality.
- Providing website user data to the client in a visual format can increase understanding.

<b>Unit Driving/Essential Question</b>	Why are analytical tools important when evaluating websites?
<b>Exemplar High Quality Unit Task</b>	Using an analytical tool to improve the website project design.

# Map of Student Learning by Learning Objective

Unpacked Learning Objective SWBAT	Potential Subtasks for Assessments Formative/Summative	Potential Learning Activities  <a href="#">Learning Activity Checklist</a>  <a href="#">Link to Differentiation Examples</a>	Integrated and Related Academic Content: ELA, Math, Science, and/or Social Studies Concepts & Activities	Equipment, Technology & Materials  <a href="#">Equipment List by CTE Cluster</a>  <a href="#">Link to Helpful Tech Tools</a>
Students employ analytics tools to identify patterns in website visits and audience behavior.	<p>Summative: Students use analytics to identify patterns on their website.</p> <p>Summative: Unit exam with multiple choice, fill-in-blank, and/or short answer questions.</p> <p>Formative: Observations of student progress-classwork rubric, class discussions, exit slips, peer reviews</p>	<p>Lecture/Discussion: What are analytic tools? <a href="https://rockcontent.com/blog/web-analytics-tools/">https://rockcontent.com/blog/web-analytics-tools/</a></p> <p><a href="https://analytics.google.com/analytics/academy/course/6">https://analytics.google.com/analytics/academy/course/6</a></p> <p><a href="https://mattkushin.com/2020/03/02/google-analytics-assignment-step-by-step-comm-research-class/">https://mattkushin.com/2020/03/02/google-analytics-assignment-step-by-step-comm-research-class/</a></p> <p><a href="https://support.google.com/analytics/answer/4553001?hl=en">https://support.google.com/analytics/answer/4553001?hl=en</a></p>	<p>ELA: Synthesis of information (research literacy)</p> <p>SS: Business practices, human behavior</p> <p>MATH: Analytical thinking</p>	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips
Students develop data visualizations to share insight on website user behavior with the client.	Summative: Students create charts to share website user behavior	Lecture/Discussion: What is a data visualization and how can it be used?	<p>ELA: Informative/explanatory writing, research synthesis</p> <p>SS: Business practices, human behavior</p>	computer, projector, internet access, teacher made materials, exams, rubrics, answer keys, exit slips

		<a href="https://www.tableau.com/learn/articles/data-visualization">https://www.tableau.com/learn/articles/data-visualization</a>	MATH: Students create appropriate charts to share data.	
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## Key Vocabulary

URL shortener, analytics, traffic, bounce rate, channel report, session, goal completion, bar chart, pie chart, area chart, line graph

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