Web Design Practicum

Primary Career Cluster:	Information Technology (IT)
Course Contact:	CTE.Standards@tn.gov
Course Code(s):	C10H18
Prerequisite(s):	*Web Site Development* (C10H17)
Credit:	1
Grade Level:	11-12
Focus Elective Graduation Requirement:	This course satisfies one of three credits required for an elective focus when taken in conjunction with other *IT* courses.
Program of Study (POS) Concentrator:	This course satisfies one out of two required courses that meet the Perkins V concentrator definition, when taken in sequence in the approved program of study.
Programs of Study and Sequence:	This is the fourth course in the *Web Design* program of study.
Aligned Student Organization(s)	SkillsUSA: http://www.skillsusatn.org/ Technology Student Association (TSA): http://www.tntsa.org
Coordinating Work-Based Learning:	Teachers are encouraged to use embedded WBL activities such as informational interviewing, job shadowing, and career mentoring. For information, visit https://www.tn.gov/education/educators/career-and-technical-education/work-based-learning.html.
Promoted Student Industry Credentials:	Credentials are aligned with post-secondary and employment opportunities and with the competencies and skills that students acquire through their selected program of study. For a listing of promoted student industry credentials, visit https://www.tn.gov/content/tn/education/educators/career-and-technical-education/student-industry-certification.html.
Teacher Endorsement(s):	037, 041, 055, 056, 057, 070, 173, 203, 204, 230, 231, 232, 233, (042 and 043), (042 and 044), (042 and 045), (042 and 046), (042 and 047), (042 and 077), (042 and 078), (042 and 079), (043 and 044), (043 and 045), (043 and 046), (043 and 047),(043 and 077), (043 and 078), (043 and 079), (044 and 045), (044 and046), (044 and 047), (044 and 077), (044 and 078), (044 and 079), (045and 046), (045 and 047), (045 and 077), (045 and 078), (045 and 079),(046 and 047), (046 and 077), (046 and 078), (046 and 079), (046 and047), (047 and 079), (047 and 077), (047 and 078), (077 and 078), (077and 079), (078 and 079), 153, 157, 311, 435, 436, 470, 475, 476, 477, 516,519, 582, 583, 595, 543, 711, 740, 037, 041, 055, 056, 057, 434, 953, 982
Required Teacher Certifications/Training:	If students are assigned in work-based learning settings, teachers must attend WBL training and earn the WBL Certificate provided by the Tennessee Department of Education.
Teacher Resources:	https://www.tn.gov/education/educators/career-and-technical-education/career-clusters/cte-cluster-information-technology.html Best for All Central: https://bestforall.tnedu.gov/

Course at a Glance

CTE courses provide students with an opportunity to develop specific academic, technical, and 21st century skills necessary to be successful in career and in life. In pursuit of ensuring every student in Tennessee achieves this level of success, we begin with rigorous course standards which feed into intentionally designed programs of study.

Students engage in industry relevant content through general education integration and experiences such as career and technical student organizations (CTSO) and work-based learning (WBL). Through these experiences, students are immersed with industry standard content and technology, solve industry-based problems, meaningfully interact with industry professionals, and use/produce industry specific, informational texts.

Using a Career and Technical Student Organization (CTSO) in Your Classroom

CTSOs are a great resource to put classroom learning into real-life experiences for your students through classroom, regional, state, and national competitions, and leadership opportunities. Below are CTSO connections for this course, note this is not an exhaustive list.

- Participate in CTSO Fall Leadership Conference to engage with peers by demonstrating logical thought processes and developing industry specific skills that involve teamwork and project management.
- Participate in contests that highlight job skill demonstration, interviewing skills, community service activities, extemporaneous speaking, and job interview.
- Participate in leadership activities such as Student2Student Mentoring, National Week of Service, Officer Training, and Community Action Project.

For more ideas and information, visit Tennessee SkillsUSA at http://www.skillsusatn.org/.

Using Work-Based Learning (WBL) in Your Classroom

Sustained and coordinated activities that relate to the course content are the key to successful work-based learning. Possible activities for this course include the following. This is not an exhaustive list.

- **Standards 1.1-1.3** | Invite an industry expert in to discuss career planning.
- **Standards 2.1-2.2** | Invite an attorney to discuss ethics and legal responsibilities.
- **Standards 3.1-5.4** | Complete an integrated project with multiple interactions with professionals web design field of study.
- **Standards 6.1-7.2** | Present a portfolio to an industry partner for evaluation.

For more ideas and information, visit https://www.tn.gov/education/educators/career-and-technical-education/work-based-learning.html.

Course Description

Web Design Practicum is a capstone course intended to provide students with the opportunity to apply the skills and knowledge learned in previous *Web Design* courses toward the completion of an in-depth project with fellow team members. Students who have progressed to this level in the *Web Design* program of study take on more responsibilities for producing independent work and managing processes involved in the planning, designing, refinement, and launch of a website. In addition to developing an understanding of the professional and ethical issues encountered by web design professionals in the workplace, students learn to refine their skills in problem solving, troubleshooting, teamwork, marketing and analytics, and project management. Upon completion of the practicum, proficient students will be prepared for postsecondary study and career advancement in web design.

Work-Based Learning Framework

Practicum activities may take the form of work-based learning (WBL) opportunities (such as internships, cooperative education, service learning, and job shadowing) or industry-driven project-based learning. These experiences must comply with the Work-Based Learning Framework guidelines established in SBE High School Policy 2.103. As such, this course must be taught by a teacher with an active WBL Certificate issued by the Tennessee Department of Education and follow policies outlined in the Work-Based Learning Policy Guide available online at https://www.tn.gov/education/educators/career-and-technical-education/work-based-learning.html .

The Tennessee Department of Education provides a *Personalized Learning Plan* template to ensure compliance with the Work-Based Learning Framework, state and federal Child Labor Law, and Tennessee Department of Education policies, which must be used for students participating in WBL opportunities.

Course Requirements

This capstone course aligns with the requirements of the Work-Based Learning Framework (established in Tennessee State Board High School Policy), with the Tennessee Department of Education's Work-Based Learning Policy Guide, and with state and federal Child Labor Law. As such, the following components are course requirements:

Course Standards

1. **Web Design Career Planning**

    1.1 Personalized Learning Plan: A student will have a **personalized learning plan that identifies their long-term goals, demonstrates how the Work-Based Learning (WBL) experience aligns with their elective focus** and/or high school plan of study, addresses how the student plans to meet and demonstrate the course standards, and addresses employability skill attainment in the following areas:
    a. application of academic and technical knowledge and skills (embedded in course standards),
    b. career knowledge and navigation skills,
    c. 21st century learning and innovation skills, and
    d. personal and social skills.

1.2 Career Research: **Research a company or organization that provides web design/development services for clients**. Companies could range from large design firms serving corporate clients, to independent freelance businesses operating in the local community. For the chosen company, cite specific textual evidence from the company's literature, as well as available press coverage (if available) to summarize:

    a. the mission and history of the organization;
    b. headquarters and organizational structure;
    c. products or services provided;
    d. credentials required for employment, and how they are obtained and maintained;
    e. policies and procedures;
    f. reports, newsletters, and other documents published by the organization; and
    g. website and contact information.

1.3 Career Requirements and Qualifications: Analyze the **requirements and qualifications for various web design job postings identified from specific company websites or online metasearch engines**. Gather information from multiple sources, such as sample resumes, interviews with web design professionals, and job boards, to determine effective strategies for realizing career goals. Create a personal resume modeled after elements based on the findings above, then complete an authentic job application as part of a career search or work-based learning experience.

1.4 Mock Interview: **Participate in a mock interview**. Prior to the interview, **research tips on dress and grooming, most commonly asked interview questions, appropriate conduct during an interview, and recommended follow-up procedures**. Upon completion of the interview, write a thank you letter to the interviewer in a written or email format.

2. Professional Ethics and Legal Responsibilities

2.1 Ethical and Legal Responsibilities: **Investigate a range of unethical and illegal behaviors frequently encountered by web design professionals**. Summarize the legal and professional consequences for engaging in these behaviors, developing claims and counterclaims about the potential ramifications for clients, users, the public, and one's own personal reputation. Deliver findings in the form of a summary document or presentation supported by evidence from news media, company policies, and state and federal laws. Potential issues include spam, flaming, cyberbullying, libel, slandering, and mining of personal data for profit.

2.2 Intellectual Property Rights Ethical Issues: Research a case study involving an ethical issue related to intellectual property rights. Examine a variety of perspectives surrounding the issue, then **develop an original analysis explaining the impact of the issue on those involved, using persuasive language and citing evidence from the research**. Potential issues include copyright infringement, piracy, plagiarism, art licensing, creative commons, and the state/federal laws that govern them.

3. Course Project

3.1 Written Proposals: Meet with a potential or mock client who requires a web-based digital product, and discuss the client's wants and needs for the product. In teams or individually,

work to develop a project plan, set goals, delegate responsibilities, and determine deadlines to meet the client's specifications. Analyze available resources, then formulate and present a written proposal for the potential client detailing the following:
- a. summary of product solution that can be offered;
- b. strategy for addressing the needs of the client;
- c. schedule of completion; and
- d. cost to the client, including justification of expenses.

3.2 <u>Site Map</u>: In teams or individually, **develop a site map outlining the architecture of the web page(s) to be created in the project**. Demonstrate the ability to group content in the form of a flowchart or other visual representation, and apply principles related to continuity of design.

3.3 <u>Project Documentation</u>: Work together to **assemble adequate documentation of project activities, including end-user documentation**. Be able to explain to both lay and technical audiences how various aspects of the site and/or digital product were developed and how they function. For example, annotate code where appropriate such that another web designer could replicate it; or explain to a first-time user how a form developed for the site, retrieves and stores information in a remote database.

3.4 <u>File Management and Agreements</u>: **Maintain accurate and accessible directories of files relevant to the project, and develop agreements among team members and clients surrounding data management, naming conventions, version control, editing permissions, and sharing of files** (for example, through cloud-based services or shared drives).

3.5 <u>Project Plan Expectation</u>: Use appropriate authoring software to **execute the project plan in line with budget constraints, server size, deadlines, and all other specifications in order to meet the vision of the client**. In the course of development, apply coding skills to design, organize, create, maintain, and update the site or digital product as needed.

4. **Advanced Troubleshooting, Critiquing, and Problem Solving**

4.1 <u>Advanced Troubleshooting</u>: In the course of developing the web-based project, **regularly test the site for functionality, navigability, browser and device compatibility, and other design aspects related to user friendliness**. Conduct and document the proper code validation to fix broken links, distorted images, and similar errors.

4.2 <u>Critiquing</u>: **Analyze the code written by another team member or peer and create a flowchart for suggesting changes to improve functionality**. Cite specific examples in the code to support recommendations.

4.3 <u>Problem Solving</u>: Apply **coding skills learned in previous courses to novel contexts and development environments**. For example, investigate methods for scaling the site or digital product onto a mobile device using responsive design. Where appropriate, incorporate the proper CSS code to render a site compatible on multiple web platforms.

5. Web Marketing and Analytics

5.1 <u>Sale and Distribution Factors</u>: Research **factors that affect the sale and distribution of products and services over the Internet**, such as the wide availability of customer feedback on sites like Amazon, Yelp, and Google. Select a company whose products/services are purchased online; describe how the factors identified above influence the design of the company's website. Critique the effectiveness of the site in promoting the company's product/service, citing evidence related to user friendliness, accessibility, tone, and composition.

5.2 <u>Web Marketing Strategies</u>: Analyze a **range of web marketing strategies** and cite examples of **how businesses use them to drive web traffic**. Strategies include but are not limited to social media marketing, image-centric content marketing, search engine optimization (SEO), email marketing, or mobile-friendly content. Deliver a mock presentation to "peer clients" outlining how one or more of these strategies could be incorporated to increase the web presence of a real or fictitious business. Drawing on success stories of similar companies, pitch the chosen strategy using persuasive language and relevant supporting data.

5.3 <u>Data Collection</u>: Describe **how companies collect data using web analytics**. Summarize a range of statistics used when tracking web traffic, such as unique page views, session duration, and bounce rate. Demonstrate the ability to collect and interpret analytics to achieve marketing goals; if applicable, incorporate such analysis into the course project.

5.4 <u>Web Data Analyzation</u>: Investigate the **ways companies use web data to analyze demographic and psychographic information about their customers**. Model to a "peer client" how an ordinary business owner can use IP geolocation, surveys, forms, and other tools to make strategic marketing decisions.

6. Portfolio

6.1 <u>Portfolio</u>: **Create a portfolio, or similar collection of work, that illustrates mastery of skills and knowledge outlined in the previous courses and applied in the practicum**. The portfolio should reflect thoughtful assessment and evaluation of the progression of work involving the application of steps of the design process. The following documents will reside in the student portfolio:
   a. personal code of ethics;
   b. career and professional development plan;
   c. resume;
   d. links to web pages designed or contributed to;
   e. list of responsibilities undertaken through the course;
   f. examples of visual materials developed and used during the course (such as graphics, drawings, models, presentation slides, videos, and demonstrations);
   g. description of technology used, with examples if appropriate;
   h. periodic journal entries reflecting on tasks and activities; and
   i. feedback from instructor and/or supervisor based on observations.

7. Communication of Project Results

7.1 <u>Technical Report</u>: **Produce a technical report highlighting the purpose, content, use, and intended audience of the web-based project**. Cite evidence from the code and from web development best practices in order to justify design decisions and maximize client satisfaction. Include appropriate documentation of license agreements, copyright protections, non-disclosure statements, and other legal issues if dealing with the ideas or data of others.

7.2 <u>Technology Presentation</u>: Upon completion of the practicum, **develop a technology-enhanced presentation showcasing highlights, challenges, and lessons learned from the experience**. The presentation should be delivered orally, but supported by relevant graphic illustrations, such as diagrams, flowcharts, sample code, and/or summary data generated from the site. Prepare the presentation in a format that could be presented to both a technical and a non-technical audience, as well as for a career and technical student organization (CTSO) competitive event.

Standards Alignment Notes

*References to other standards include:

- P21: Partnership for 21st Century Skills [Framework for 21st Century Learning](#)
  - Note: While not all standards are specifically aligned, teachers will find the framework helpful for setting expectations for student behavior in their classroom and practicing specific career readiness skills.