PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE  
MASTER SYLLABUS  

CIW Design Methodology and Technology  
WEB 2210

Class Hours: 3.0  Credit Hours: 3.0  
Laboratory Hours: 0.0  Revised: Fall 08

Note: This course is not designed for transfer credit.

Catalog Course Description:

This course teaches students how to design and publish Web sites. General topics include Web Site Development Essentials (such as the site development process, customer expectations, and ethical and legal issues in Web development), Web Design Elements (such as aesthetics, the site user’s experience, navigation, usability and accessibility), Basic Web Technologies (such as Hypertext Markup Language [HTML], Extensible HTML [XHTML] and extended technologies, image files, GUI site development applications, site publishing and maintenance) and Advanced Web Technologies (such as multimedia and plug-in technologies, client-side and server-side technologies, and Web databases).

Entry Level Standards:

Students taking this course should be proficient in Windows XP

Prerequisites:

WEB 2200 or CSIT 2645 or equivalent

Corequisites:

WEB 2292

Textbook(s) and Other Course Materials:


Supplementary Materials:

1.  Software
   The following software should be installed on your system before beginning this class:
   a.  Microsoft Windows (XP)
   b.  Internet Explorer 6 (or higher) with Outlook Express
   c.  Netscape Communicator 6 or later

   The following software is referenced in the course. Purchasing this software is optional. The course will be taught with students studying the screen shots in the text. If you have the software or wish to purchase it, you can practice the exercises in the course. It is possible, however, to master the
course material and pass the certification exam by studying the screen shots in the texts.

d. Microsoft FrontPage 2003 (Optional)
e. Macromedia Dreamweaver Studio 8 (Optional)
f. Macromedia HomeSite 5.5 (Optional)
g. Macromedia Fireworks 8 (Optional)
h. Macromedia Flash 8 (Optional)

1. CD-ROM. Each coursebook includes a supplemental CD-ROM with files that are referenced and used in the course. The labs will refer you to the CD and you will access these and use the files in the course. The contents of the CD-ROM must be copied to the computer desktop for the files to be modified as directed in the labs.

NOTE: This course is one of a series in the Certified Internet Webmaster (CIW) program offered at Pellissippi State. The CIW certification program validates job-role skills competency for entry-level job seekers and seasoned professionals alike. Candidates can earn CIW certificates in various information technology (IT) job roles, from the foundational CIW Associate certification, continuing to CIW Professional and specialization certifications, and up to advanced-level Master CIW certifications. The course prepares you for the Master CIW Designer certification. For detailed information, see CIW's website at www.ciwcertified.com.

You will take an exam preparatory course that includes the certification exam. This 1-hour course is a co-requisite to this course or can be taken after completing this course; it will be your choice as to the semester you take the exam course.

More information on CIW certification is on the WebCT website for this course.

I. Week(Phase)/Unit/Topic Basis:

Week 1  Lesson 1: Overview of Web Design Concepts
         Lesson 2: Web Development Teams
         Lesson 3: Web Project Management Fundamentals

Week 2  Lesson 4: Web Site Development Process
         Lesson 5: Web Page Layout and Elements
         Lesson 6: Web Site Usability and Accessibility

Week 3  Lesson 7: Browsers
         Lesson 8: Navigation Concepts
         Lesson 9: Web Graphics
         Lesson 10: Multimedia and the Web
         Lesson 11: Ethical and Legal Issues in Web Development

Week 4  Lesson 12: HTML and the Evolution of Markup
         Lesson 13: XML and XHTML
         Lesson 14: Web Page Structure - Tables and Framesets

Week 5  Lesson 15: Cascading Style Sheets
         Lesson 16: Site Content and Metadata

Week 6  Lesson 17: Site Development with Microsoft FrontPage 2003 - Introduction
         Lesson 18: Site Development with FrontPage 2003 - Basic Features
II. Course Objectives*:

A. Explain and apply layout elements for a web site. II,III
B. Explain why navigation is critical and describe how browsers control navigation. I,III
C. Explain the function of graphics in your web site. I,II,IV
D. Apply multimedia design principles. II,III
E. Add meta data to an HTML document. I,II,III
F. Edit graphics and screen captures. IV
G. Create multimedia files using Macromedia Flash. II,III
H. Explain basic programming language concepts. III,IV
I. Describe how JavaScript differs from HTML, Java, and Java applets. I
J. Write browser-specific DHTML code. I,II,III,IV
K. Describe the difference between HTML and XML. I
L. Explain the functions of various http servers and discuss the use of ports for web server administration. V,VI
M. Describe server-side technologies used to create dynamic content for web pages. V,VI
N. Embed Java applets into web pages. I,II,IV
O. Describe the anatomy of databases and define query types. I

*Roman numerals after course objectives reference goals of the Web Technology program.
III. Instructional Processes*:

Students will:

A. Define the relationship between web technology and design concepts. Technological literacy outcome

B. Identify the current direction and application of web technology and design. Technological literacy outcome

C. Identify the differences between web tools and technology. Technological literacy outcome

D. Use HTML skills to create a basic web page. Technological literacy outcome

E. Use basic web design concepts and the site design technologies to determine the overall design and maintenance of a web site and evaluate how well the site communicates to the user its message. Communication outcome

F. Use research activities to promote independent thinking. Active Learning Strategies

G. Use software tools and web development skills to develop web sites that are attractive, functional, and efficient. Technological literacy outcome

*Strategies and outcomes listed after instructional processes reference Pellissippi State’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Identify common page layout formats. A

2. Define layout elements and their usage. A,J

3. Use color to convey a company's culture and industry and identify colors in numeric formats. A

4. Choose fonts for a web site. A

5. Explain why navigation is critical. B

6. Identify browser components that control navigation. B

7. Define web site hierarchy and define familiar conventions. B

8. Identify the function of graphics in a website. B

9. Define color depth and resolution. B

10. Choose graphics file formats. A,B

11. Define multimedia web-enabling technologies. A,B

12. Apply multimedia design principles. B
13. Identify the collaborative nature of web development. C
14. Define the importance of design goals. C
15. Define the site metaphor concept. B,C
16. Describe the mindmapping process and use it to structure a web site. B,C
17. Determine site implementation factors. B,D
18. Identify site characteristics and their significance and calculate download time. D
19. Identify the origins of HTML. E
20. Define the HTML standard and identify the differences in HTML versions. E,G
21. Explain how proprietary extensions affect web development. E,G
22. Identify web accessibility issues and solutions. E,G
23. Use tables for page structure. E,G
24. Construct a simple page structure using tables. E,G
25. Construct a complex page structure using tables. E,G
26. Identify the uses of frames. E,G
27. Build a simple frameset in columns and rows. E,G
28. Build nested framesets. E,G
29. Combine framesets. E,G
30. Target frameset hyperlinks and manipulate frameset attributes. E,G
31. Add metadata to an HTML document. A,E,G
32. Use the META tag and its attributes to influence search engine results. E,G
33. Identify four ways to apply style variations with Cascading Style Sheets (CSS). E,G
34. Create style sheets in HTML documents to simplify web site design. E,G
35. Create and link to an external style sheet. E,G
36. Locate CSS support resources. F
37. Identify the main components of Microsoft FrontPage. B,G
38. Create and open a web page with FrontPage. B,G
39. Use FrontPage Views. B,G

40. Perform the following advanced web design activities using FrontPage: add, move, and delete web pages; create and modify tables for page layout; insert images; create page templates; create hyperlinks and image maps; import existing text and HTML files; apply shared borders; develop framesets; create styles; use FrontPage themes; use the FrontPage DHTML Effects toolbar; insert FrontPage Components; create a web form; use FrontPage web reports; create a search form. B,G

41. Identify the main components of Dreamweaver. B,G

42. Open and close web projects with Dreamweaver. B,G

43. Navigate proficiently through the Dreamweaver application. B,G

44. Insert layers, graphics, and text using Dreamweaver. B,G

45. Perform the following advanced web design activities using Dreamweaver: develop advanced page layouts; use image elements and navigation features; create image maps; create templates and framesets; use additional features of the Dreamweaver Objects palette; develop rollover images using dreamweaver; creat web forms; use Dreamweaver Behaviors Inspector for use interaction; edit HTML directly; insert jump menus; identify the Macromedia Dreamweaver Exchange. B,G

46. Open and manage HTML files using HomeSite. B,G

47. Use the HomeSite default template. B,G

48. Create new files using HomeSite templates. B,G

49. Use the HomeSite Tag features. B,G

50. Create an image document using Fireworks. B,G

51. Add text to an image using Fireworks. B,G

52. Crop an image using Fireworks. B,G

53. Manipulate image layers using Fireworks. B,G

54. Create image frames using Fireworks. B,G

55. Create a transparent image using Fireworks. B,G

56. Create image slices using Fireworks. B,G

57. Identify the elements of a Flash movie. B,G

58. Identify the Flash toolbar icons and use the Flash drawing tools. B,G

59. Create, edit, resize, and transform shapes using Flash. B,G

60. Select and apply colors, gradients, and fills using Flash. B,G
61. Use the Flash timeline. B,G
62. Create frames and keyframes using Flash. B,G
63. Create layers for object using Flash. B,G
64. Save and publish a Flash movie. B,G
65. Create and edit Flash symbols and buttons. B,G
66. Create Flash motion tweens, shape tweens, and text tweens and apply stops to Flash keyframes. B,G
67. Identify the difference between a Flash movie and a Flash movie clip. B,G
68. Create Flash movie clips with the following features: add sound; resize the Flash movie stage; add Flash movies to HTML pages; test browsers for the Flash plug-in. B,G
69. Use Flash tell targets and action calls. B,G
70. Create mask layers using Flash. B,G
71. Identify programming concepts. B,G
72. Define objects, properties, and methods. B,G
73. Identify ways in which JavaScript differs from HTML, Java applets, and Java. B,G
74. Write basic JavaScript code. B,G
75. Define and use JavaScript functions. B,G
76. Define Dynamic HTML and discuss the technologies it includes. A,B,C,G
78. Write browser-specific DHTML code for use with Microsoft Internet Explorer and Netscape Navigator. A,B,C,G
79. Describe the evolution of XML. A,B,C,G
80. Compare and contrast HTML and XML. A,B,C,G
81. Identify limitations of HTML in relation to XML. A,B,C,G
82. Identify various HTTP servers and explain their functions. A,B,C,G
83. Define the use of ports for web servers and server administration. A,B,C,G
84. Identify server-side technologies used to create dynamic content for web pages. A,B,C,G
85. Utilize a CGI-handling form. A,B,C,G
86. Define cookies and describe the ways in which they can be used to enhance a web site. A,B,C,G

87. Enable your browser to warn you before accepting cookies and delete cookies from your system. A,B,C,G

88. Define plug-in technology. A,B,C,G

89. Locate and install various plug-in applications. F

90. Define Java and describe its strengths. A,B,C,G

91. Define applets.ets and explain how they function. A,B,C,G

92. Use Java applets to create animation. A,B,C,G

93. Define database. A,B,C,G

94. Identify the anatomy of a database and the general database query types. A,B,C,G

95. Name the Internet governing organizations and explain their roles. C

96. Compare in-house web site hosting to hosting with an Internet Service Provider. C

97. Publish a web site with WS-FTP, Microsoft FrontPage, and Dreamweaver. A,B,C,G

*Letters after performance expectations reference the course objectives listed above

IVb. National Workforce Center for Emerging Technologies Skills Standards:*

Ability to identify key sources of information (NWCET A1)
Knowledge of subject matter (NWCET A1)
Knowledge of the types of features and functions and their implementation (NWCET A3)
Knowledge of concept development options and methodologies (NWCET A5)
Knowledge of methods and tools to present functional and technical specifications (NWCET A4)
Knowledge of web technology (NWCET A5)
Knowledge of web-safe palettes and colors (NWCET A5)
Knowledge of graphic design and layout principles (NWCET A5)
Ability to design content structure (NWCET A6)
Knowledge of site mapping and information mapping techniques (NWCET A6)
Knowledge of selected technologies and their limitations and constraints (NWCET A8)
Knowledge of various graphical applications and sources of graphic images (NWCET B3)
Ability to develop aesthetically pleasing elements (NWCET B3)

*This course has been developed using the National Workforce Center for Emerging Technologies' IT Skills Standards. These Skill Standards establish the agreed-upon, industry-identified knowledge, skills, and abilities required to succeed in the workplace and provide benchmarks of skill and performance attainment that are behavioral and measurable. These Skill Standards are referenced in parentheses.

V. Evaluation
The primary portion of the student's grade will be based on the projects, quizzes and discussion board participation.

Grading Procedure:
Projects: 40 percent of grade. Students will be given several chapter-based projects and one final project involving developing a web site. The projects will be completed in the course of reading and working through the textbook. The files will be updated to web server space.
Quizzes: 40 percent of grade. Students will be given a series of non-cumulative theory exams over textbook content during the semester. These exams will consist of multiple choice questions.
Online Communication Tools: 20 percent of grade. Students will use email to communicate with instructor and with each other.

Grading Scale:
The following grading scale will be used in this course:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
</tr>
<tr>
<td>B</td>
<td>80-89 %</td>
</tr>
<tr>
<td>C</td>
<td>70-79 %</td>
</tr>
<tr>
<td>D</td>
<td>60-69 %</td>
</tr>
<tr>
<td>F</td>
<td>0-59 %</td>
</tr>
</tbody>
</table>

VI. Policies:

A. Attendance Policy:
Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding videotape and Web courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. (Pellissippi State Catalog)

Some exams are to be taken at the Testing Center at Pellissippi State. Policy requires that you have a photo ID to take a test in the Testing Center. Children are not allowed in the Testing Center. For location, hours, etc., refer to the Testing Center web site.

If you are taking this course at a distance and cannot come to the Pellissippi State Testing Center, it will be your responsibility to make arrangements for a proctored exam. Contact your instructor to discuss this matter.
B. Academic Dishonesty:

You are expected to submit only work that you do yourself. Do not collaborate on work with other students unless you are given a group project. Failure to observe these rules could result in you receiving a failing grade or being dismissed from the class with a grade of F.

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly through participation or assistance, are immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions which may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F or a zero for the exercise or examination or to assign an F in the course. (Pellissippi State Catalog).

C. Accommodations for disabilities:

If you need accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127 or 131 or by phone: 694-6751(Voice/TTY) or 539-7153.

D. Other Policies:

Facilities: Students must have a valid Pellissippi ID to be presented on demand to gain access to Pellissippi facilities

Hardware/Software Requirements for This Course

**IBM-type criteria:**

Hardware:
- Intel Pentium 4, Intel Centrino, Intel Xeon, or Intel Core Duo (or compatible) processor.
- Microsoft Windows XP with Service Pack 2 or Windows Vista Home Premium, Business, Ultimate or Enterprise (certified for 32-bit editions)
- 1 GB of RAM
- 5 GB of available hard-disk space
- 1024 x 768 monitor resolution with 16-bit video card
- CD-ROM drive (DVD preferred)
- High-speed Internet connection such as cable modem or DSL recommended, if possible
- Speakers

Software:
- Internet Explorer 6.0 (or higher) with Outlook Express
- OPTIONAL: Netscape 7.0 (full installation)

Macintosh criteria:
Hardware:
- PowerPC G4 or G5 or multicore Intel processor
- Mac OS X v.10.4.8
- 1 GB of RAM
- 7 GB of available hard-disk space
- 1024 x 768 monitor resolution with 16-bit video card
- CD-ROM (DVD preferred)
- High-speed Internet connection such as cable modem or DSL recommended, if possible
- Speakers

Software:
- QuickTime 7.0.4 or better

The following software is referenced in the course. Purchasing this software is optional.
- Microsoft FrontPage 2003
- Macromedia Dreamweaver 8
- Macromedia HomeSite 5.5
- Macromedia Fireworks 8
- Macromedia Flash 8

FOR CIW Courses: CD-ROM. Each coursebook includes a supplemental CD-ROM with files that are referenced and used in the course. The labs will refer you to the CD and you will access these and use the files in the course.