NOTE: This course is not designed for transfer credit.

Catalog Course Description:

This course teaches developers how to use the features of the JavaScript language to design client-side, platform-independent solutions. Students learn how to write JavaScript programs, script for the JavaScript object model, control program flow, validate forms, animate images, target frames, and create cookies. Students will also understand and use the most popular applications of JavaScript.

Entry Level Standards:

Students taking this course should be proficient in Windows XP. Students should also have a firm understanding of HTML. Contact the instructor prior to registration if you have a question about your level of HTML knowledge.

Prerequisites:

WEB 2200 or CSIT 2645 or equivalent; or consent of department head.

Textbook(s) and Other Course Materials:


NOTE: This course is 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 CIW Web Languages - JavaScript exam. For detailed information, see CIW's website at http://www.ciwcertified.com/.

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction to JavaScript</td>
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<tr>
<td>2</td>
<td>Working with Variables and Data in JavaScript</td>
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<td>3-4</td>
<td>Functions, Methods and Events in JavaScript</td>
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<td>5</td>
<td>Controlling Program Flow in JavaScript</td>
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<tr>
<td>6-7</td>
<td>The JavaScript Object Model</td>
</tr>
<tr>
<td>8</td>
<td>Midterm Review and Discussions</td>
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<td>9-10</td>
<td>JavaScript Language Objects</td>
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<td>11-12</td>
<td>Developing Interactive Forms with JavaScript</td>
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<td>13</td>
<td>Cookies and JavaScript Security</td>
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<tr>
<td>14</td>
<td>Controlling Frames with JavaScript</td>
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<td></td>
<td>Custom JavaScript Objects</td>
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<tr>
<td>15</td>
<td>Final Review and Discussions</td>
</tr>
</tbody>
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**II. Course Objectives***:

A. Describe the origins of JavaScript and list its key characteristics.
B. Communicate with users using JavaScript.
C. Define and call JavaScript functions.
D. Control program flow.
E. Explain and use the JavaScript object model.
F. Identify and use the JavaScript language objects.
G. Use JavaScript with HTML form controls.
H. Define and use cookies.
I. Discuss security issues relevant to JavaScript.
J. Create custom JavaScript objects.

*Roman numerals after course objectives reference goals of the WEB program.

**III. Instructional Processes***:

Students will:

1. Understand and facilitate relationships among website users and website developers. *Technological Literacy Outcome*
2. Conduct website performance testing and evaluation in relation to interactivity, usability and JavaScript. *Technological Literacy Outcome*
3. Use research activities to promote independent thinking. *Active Learning Strategies*

*Strategies and outcomes listed after instructional processes reference TBR’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. Describe the origins of JavaScript. A
2. List the key JavaScript characteristics. A
3. Describe the differences between Java and JavaScript. A
4. Discern among JavaScript, JScript, and VBScript. A
5. Differentiate among server-side and client-side JavaScript applications. A
6. Embed JavaScript into HTML. A
7. Use the JavaScript comment tags. A
8. Communicate with users through the alert(), prompt() and confirm() methods. B
9. Define variables. B
10. Define data types. B
11. Obtain user input and store it in variables. B
12. Report variable text to the client window. B
13. Discern between concatenation and addition. B
14. Use expressions. B
15. Use operators. B
16. Define inline scripting. B
17. Implement simple events such as onLoad() and onUnload(). B
18. Define keywords and reserved words. B
19. Define functions. C
20. Call functions. C
21. Pass arguments to functions. C
22. Return values from functions. C
23. Define operator precedence. C
24. Discern between global and local variables. C
25. Employ the conditional operator. C
26. Identify user events and event handlers. C
27. Use methods as functions. C
28. Use conversion methods. C
29. Use the if-statement. D
30. Use the while-statement. D
31. Use the for-statement. D
32. Use the break and continue statements. D
33. Define the do-while statement. D
34. Use the switch-statement. D
35. Describe the JavaScript object model. E
36. Use the window object. E
37. Manipulate properties and methods of the document object. E
38. Use the with statement. E
39. Deploy the image object. E
40. Evaluate and change URL information with the location object. E
41. Use the navigator object. E
42. Use the String Object to test user input. F
43. Identify basic regular expressions and the RegExp object. F
44. Deploy the Array object to create more efficient code. F
45. Identify uses for the Date and Math objects. F
46. Identify and use form controls. G
47. Refer to form objects. G
48. Define the form object. G
49. Use the button object. G
50. Use the checkbox object. G
51. Evaluate text in the text and textarea subjects. G
52. Process radio objects options. G
53. Capture choices from a select list. G
54. Conduct form validation. G
55. Explain cookies. H
56. Delete cookies from your disk. H
57. Assign a cookie. H
58. Test for the presence of a cookie. H
59. Clear a cookie. H
60. Enable and disable cookies in the browser. H
61. Use cookies and passwords to restrict entry to a page. H
62. Discuss security issues relevant to JavaScript. H
63. Define signed scripts. H
64. Target frames with JavaScript. I
65. Change two or more frames simultaneously. I
66. Use functions and variables within framesets. I
67. Use functions and variables with related windows. I
68. Target the opener window. I
69. Create a custom JavaScript object. J
70. Define properties and methods of custom objects. J
71. Create new object instances. J
72. Create client-side databases using custom objects. J
73. Create functions and methods for manipulating client-side databases. J

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:
A. Testing Procedures:

Online quizzes will be built into the course. Due to security issues in online testing, the weighting of the quizzes will be minor in relation to the overall grade for the course. The primary portion of the student's grade will be based on the projects completed and discussion board participation. The purpose of the online quizzes is to encourage the student to work through the exercises and to become familiar with the textbook chapters. The quiz items will be randomly generated from a bank of quiz items; each student may receive a different set of quiz questions over a specific topic.

Grading Procedure:

- **Projects: 60 percent of grade.** Students will be given several chapter-based projects (a.k.a. labs). The projects will be completed in the course of reading and working through the textbook. The files will be uploaded to a student web server space.
- **Quizzes: 20 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 true/false, multiple choice, short answer and essay questions.
- **Online Communication Tools/Participation and Attendance: 20 percent of grade.** Since this is an online class attendance will be graded based on weekly discussion board participation. This participation will be based on quantity and quality of postings. Quality participation is required to pass this course.

B. Laboratory Expectations:

N/A

C. Field Work:

N/A

D. Other Evaluation Methods:

N/A

E. Grading Scale:

- 90 - 100%  A
- 80 - 89%   B
- 70 - 79%   C
- 60 - 69%   D
- 0 - 59%    F

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)
B. Academic Dishonesty:

Students are expected to submit only their own work. Do not collaborate on work with other students unless a group project is given. Failure to observe these rules could result in 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:

Supplementary Materials

Software Requirements:
The following recommended software configurations should be used to complete the labs in the book:
a. Microsoft Windows XP.
b. Internet Explorer 5.5 (or later) or Netscape Navigator 4.0 (or later).
c. A standard text editor (usually available with the operating system). (For example: Notepad.)

This course is delivered in TRADITIONAL lecture format as well as over the World Wide Web (WWW).

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
• Macromedia Shockwave and Flash players. Download free from http://www.macromedia.com/downloads/
• Adobe Acrobat Reader 6.0 or better. Download free from http://www.adobe.com/support/downloads/main.html
• 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
• Adobe Acrobat Reader 6 or better. Download free from http://www.adobe.com/support/downloads/main.html
• Macromedia Shockwave and Flash players. Download free from http://www.macromedia.com/downloads/

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.