Course Syllabus

Department: Computing Sciences

Date: 5/1/2012

I. Course Prefix and Number: CSC 222
   
   Course Name: Web Development I
   
   Credit Hours and Contact Hours: 3 credit hours and 3 contact hours
   
   Catalog Description including pre- and co-requisites:

   Web Development I is an introduction to, and the first of a 2-course sequence in web page development. Students will learn how to design and develop basic Web pages using current technologies and tools. Topics covered include the World Wide Web, HTML, XHTML, CSS, and basic digital imaging techniques. This course will serve as an introduction to Internet technologies used to support browsing, file transfers, e-commerce, and standardization. Other topics addressed include website publishing, accessibility, social communication, and intellectual property rights as they relate to Web content. Prerequisite: CSC 115 or CSC 116 with a grade of 'C' or better, or equivalent experience.

II. Course Outcomes and Objectives

   Student Learning Outcomes:

   Upon completion of the course the participant will be able to:

   ● Create a well-designed and well-formed Web site utilizing current standards and practices
   ● Demonstrate knowledge in web technologies including HTML, XHTML, CSS, and Image-editing
   ● Prepare images for integration into a Web page
   ● Select appropriate Web tools for a Web development project
   ● Identify Web authoring obstacles/issues created from the lack of standardization by various web browsers and markup language versions

   Relationship to Academic Programs and Curriculum: This course is a required for the:

   Web and Multimedia Development Advisement Area for the AAS IT degree
   Online AAS e-Commerce degree
   New Media degree

   This course is offered as a 200-level elective for the:

   AS in Computer Science
   AS in Information Science
College Learning Outcomes Addressed by the Course:

- Writing
- Ethics/values
- Oral communications
- Citizenship
- Reading
- Global concerns
- Mathematics
- Information resources
- Problem-solving
- Computer literacy

III. Instructional Materials and Methods

Types of Course Materials:

- Textbooks: a tutorial approach to creating Web sites
- Software: Web browsers, text editors, validators, interpreters, image-editing
- Online Web Sites: standardization, educational, current trends

Methods of Instruction (e.g. Lecture, Lab, Seminar ...):

- Lecture
- Discussions
- Demonstrations
- Hands-on lab activities
- Group projects

IV. Assessment Measures (Summarize how the college and student learning outcomes will be assessed):

Student learning outcomes will be assessed through a variety of activities including the following:

1. Assignments: Web page tutorials and case problems:

Students will develop skills in information resources, problem solving, global concerns and ethics/values as they learn to create well-written professional Web pages with respect to universal standards. Students will practice a variety of Web technologies including image editing, and will develop Web pages in accordance with the cultural and social aspects of Web development for the Internet. These exercises will assess the learning outcomes listed above. They will learn about the limitations of technologies and how to solve technical problems as they are encountered. In addition students will be introduced to security issues, Web services, and professional organizations such as the W3C.

2. Online text tests:

Chapter tests will be given in a current online environment to encourage students to read the course materials. The tests will assess their comprehension of the course concepts as related to Web design and development.

3. In-class quizzes:

In-class quizzes will be given routinely to assess student writing capabilities. They are expected to demonstrate college-level written text and well-reasoned arguments.
4. Final Project:

Students will be required to complete a final project that will demonstrate professional competency, well-written presentational material, and a proficiency in a variety of Web technologies.

V. General Outline of Topics Covered:

HTML/XHTML/CSS
- History of the World Wide Web and HTML
- Web support organizations
- The structure of an HTML document
  - HTML tags
  - Block-Level and Inline elements
  - Lists
- Web Site Structures and Relationships
  - Hyperlinks: within a Web page, to another Web page, to Internet Resources

Cascading Style Sheets
- History and Concepts
- Inline, Embedded and External Style Sheets
- Styles
- Special Effects with Cascading Style Sheets
  - CSS Selectors
  - Page Layout
- Styles and Various Media

Web Tables
- Structure Options
- Formatting
- Page Layout

Web Forms
- Form Elements
- Option and Form Buttons
- Web Forms and Web Servers

Multimedia Integration
- Basics of digital audio and video
- External and embedded media
- Active-X components
- Embedding Flash movies
- Media Players
- Java Applets

Frames
- Using Frames
- Pros and Cons

Well-formed, Valid Documents
- SGML -> HTML
- XML -> XHTML
- DTDs: Transitional, Frameset, and Strict
- Validators

IMAGE-EDITING
- Images: Bitmap versus Vector
- File Formats
Basic Photo Corrections
   Resolution and Image Size
   Retouching
   Color Modes and Saturation
Image Adjustments: Correcting, Adjusting, and Enhancing
Layers
Compositing Photos
Text and Text Effects
Preparing Files for the Web