CSET 3100 Advanced Website Design (3 semester credit hours)   CSET Elective
                                                                    IT Required

Current Catalog Description:
    This course covers the creation of HTML forms, creation of static and animated web
    graphics, Dynamic Fonts, SMIL (Synchronized Multimedia Integration Language) as it
    relates to G2, Realtext, Realpix and XML. The course also covers Frames, META Tags,
    Optimizing Speed, Cookies, Image mapping (from both server-side and the client-side),
    HTML, tables and Shockwave.

Textbooks:
    "HTML & XHTML: The Definitive Guide," Fifth Edition, Musciano and Kennedy, O'Reilly,
    August 2002.

References:
    Course web pages: http://cset.sp.utoledo.edu/cset3100/
    Additional web references as assigned by the instructor

Related Program Outcomes:
    CSET Program Outcomes are: (c, f and i)
    IT Program Outcomes are: (c, f and i)
    See attached tables

Course Objectives:
After successful completion of this course, students will:
* be able to design web sites which use HTML tables, forms, frames and Cascading Style
  Sheets.
* learn the advantages of HTML tables, forms, frames Cascading Style Sheets and CSS
  box model and when they are best utilized.
* provide definitions and explanations for a large number of technical terms and acronyms
  related to web site design.
* apply the techniques and features of imagemaps to web site navigation.
* understand the issues related to web graphics (size versus resolution) as well as how to
  create, optimize, and display graphic images.
* be able to create and edit simple animated web graphics.
* apply the concepts learned in this course to the development of web-based information
  services that provide the visitor with an effective and enjoyable experience.
* learn how to employ meta tags and HTML cookies to improve the experience of web site
  visitors.
* be able to create, validate, transform and display XML files.
* Be able to effectively use HTML5 functionalities

Major Topics Covered in the Course

Topic	Lecture Hours
Social and Ethical Responsibilities Related to Web Site Design and Hosting	1
Basic Unix commands, Connecting to the Class Server Via ssh, and Preparing Your Directory for Web Access	1
Transferring Files To Your Website	1
Editing HTML Documents	1.5
HTML Tables	1.5
HTML Forms	1.5
HTML Lists	1.5
A Brief Introduction to Dynamic Web Site Content Via CGI using Perl	2
HTML Frames and Inline Frames	1.5
Meta Tags	1.5
IE Page Transitions	1.5
Cascading Style Sheets	1.5
Graphics: HTML Tags, CSS and Graphics Tags, Single Pixels & Other Tricks	2
Graphics: JavaScript	1.5
Graphics: Image Types & Optimization Tutorials	2
Graphics: Animated Graphics	1
HTML Colors & Image Tools	1
Imagemaps	1.5
Imagemap Via JavaScript	1.5
Web-Site Design Considerations	1.5
File Format Considerations	1.5
EXtensible Markup Language	1.5
DTDs, Namespaces and XML Schemas	1.5
EXtensible Stylesheet Language	1.5
XPath & XSL FO	1.5
Creating and Using Client-Side Cookies	2.5
Synchronized Multimedia Integration Language (SMIL)	1.5
RealPix	1.5
Flash and SWiSHmax (an alternative to Macromedia Flash)	1.5
HTML 5	1.5
Totals	45

Laboratory Projects:
- Create an HTML Table
- Create a form and use mailto to send data
- Implement a simple CGI Programming application
- Create an HTML Application Using Frames
- Create an HTML Application Using Meta Tags
- Create/Modify an HTML page Using CSS
- Create an HTML Application Using Graphics Tags
- Create a webpage that employs single pixel images in three different ways
- Create an HTML Application Using an Imagemap

- Create a checklist of criteria for a GREAT Web site
- Create a website of approximately 6-8 interlinked pages
- Build An XML Vehicle File
- Build a DTD File
- Create an XML document that contains data about the employees of a small company
- Use XML, XSLT and XPath to create a pseudo database application for the Web that keeps track of inventory for a small business
- Create a Web Application Using Cookies
- Convert an existing HTML documents to an XHTML compliant page
- Create a HTML5 multimedia pages

Oral and Written Communications

Students create a number of web pages and sites that require written content as well as graphical content.

Social and Ethical Issues

Social and Ethical Responsibilities Related to Web Site Design and Hosting

Theoretical Content

- telnet, ssh and ftp protocols
- web page document object model (DOM)
- Cascading Style Sheets (CSS)
- client-side and server-side ImageMaps
- DTDs and XML
- XSL
- HTML5

Problem Analysis

See the list of laboratory projects listed above.

Solution Design

Students are required to design solutions to the various laboratory projects using the web technologies covered in the course.

Course Coordinator

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2-24-2011

CSET	Student Outcomes:	Course Outcomes	Assessment Methods
a	An ability to select and apply knowledge of computing and mathematics appropriate to the discipline. More specifically, an ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. [CAC-j]		
b	An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.		
c	An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs and to apply design and development principles in the construction of software systems of varying complexity. [CAC-k]	creating web sites that use the latest web technologies. the design of web sites that effective deliver the desired information content	Graded Design pages
d	An ability to function effectively as a member or leader on technical teams to accomplish a common goal.		
e	An understanding of professional, ethical, legal, security and social issues and responsibilities including a respect for diversity.		
f	An ability to communicate effectively with a range of audiences using a range of modalities including written, oral and graphical.	Web design project involves written and graphical components.	information content of web sites created in response to various assignments
g	An ability to analyze the local and global impact of computing on individuals, organizations, and society.		
h	Recognition and understanding of the need for and an ability to engage in self-directed continuing professional development.		
i	An ability to select and apply current techniques, skills, and tools necessary for computing practice.	Web design technologies are effectively used in the assignments	Graded homework web pages and programs
j	An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.		
k	A commitment to quality, timeliness, and continuous improvement.		

IT	Student Outcomes:	Course Outcomes	Assessment Methods
a	an ability to select and apply knowledge of computing and mathematics appropriate to the discipline. Specifically, an ability to use and apply current technical concepts and practices in the core information technologies. [IT-j]		
b	an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.		
c	an ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs. And, an ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems. [IT-k]	creating web sites that use the latest web technologies. the design of web sites that effective deliver the desired information content	Graded Design pages
d	an ability to function effectively as a member or leader on technical teams to accomplish a common goal.		
e	an understanding of professional, ethical, legal, security and social issues and responsibilities including a respect for diversity.		
f	an ability to communicate effectively with a range of audiences using a range of modalities including written, oral and graphical.	Web design project involves written and graphical components.	Graded homework webpages and programs
g	an ability to analyze the local and global impact of computing on individuals, organizations, and society.		
h	a recognition and understanding of the need for and an ability to engage in self-directed continuing professional development.		
i	an ability to select and apply current techniques, skills, and tools necessary for computing practice. And an ability to effectively integrate IT-based solutions into the user environment. [IT-l]	Web design technologies are effectively used in the assignments	Graded homework web pages and programs
j	an understanding of best practices and their application. [IT-m]		
k	an ability to assist in the creation of an effective project plan. [IT-n]		