CRN# 13040 CPET 49900-06D Web Systems
CRN# 13048 CPET 49900-06I Web Systems
Cross Listed
CRN# 13041 ITC 25000-01D Web Systems
CRN# 13049 ITC 25000-01I Web Systems

Fall 2014

Course Description
CPET 499/ITC 250 – Web Systems, Cr. 3
ITC 25000 – Web Systems, Cr. 3, Preparation for Course: P: or C: ITC21000.
http://bulletin.ipfw.edu/content.php?catoid=27&navoid=692&filter%5Bitem_type%5D=3&filter%5Bonly_active%5D=1&filter%5B3%5D=1&filter%5Bcpage%5D=16#acalog_template_course_filter
A study of essential knowledge and skills that an effective web administrator must know. Introduction to fundamental topics of web technologies, web-based systems, and web page design. Topics covered include Internet applications, web site development and publishing, information architecture, client and server-side programming, multimedia technologies and publishing, vulnerabilities, and web site implementation and maintenance.

Course Instructor Information
Paul I-Hai Lin, Professor of Electrical and Computer Engineering Technology
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Professor’s Course Web site: http://www.ecet.ipfw.edu/~lin
My Blackboard Web site: login through mYIPFW

Office Hours:
- Monday 1:00 -3:00 PM
- Tuesday 1:00 -3:00 PM, 6:30-7:30 PM
- Wednesday 1:00 -3:00 PM
- Thursday 1:00 -3:00 PM
- Other weekday hours – by appointment

Course Delivery Format
- Live Lecture (3 hrs/week) – in Class, Face-to-Face lectures with echo 360 capture system:
  Room ET 364, Tuesday & Thursday 3:00 – 4:15 PM
- Internet section students, login to myIPFW for captured lectures, assignments, and other information

Important Dates:
Sept. 1 – Labor Day Holiday
Oct. 13 & 14 – Class suspended (Fall Break)
Nov. 26 – 30 - Thanksgiving Recess

Text Book

Disabilities Statement:
If you have a disability and need assistance, special arrangements can be made to accommodate most needs. Contact the Director of Services for Students with Disabilities (Walb, room 113, telephone number 481-6658), as soon as possible to work out the details. Once the Director has provided you with a letter attesting to your needs for modification, bring the letter to me. For more information, please visit the website for SSD at http://new.ipfw.edu/disabilities/

Course Outcomes
After successfully completing ITC/250 CPET 499, students will have:
- Ability to use all modern browsers and mobile browsers
- Ability to use HTML 5 and CSS to design and implement web pages
- Ability to use client-side scripting language (JavaScript) to create dynamic web pages
- Ability to use XHTML, XML, XSL in web page design
- Ability to design web pages using proper development tools
- Ability to use server-side scripting languages for client-server Web applications
- Ability to design and develop a web site

Class Activities and Assessment
The class format will be 3 hour lecture each week, 16 weeks total and require about 8hrs/week for out of class study. Student assignments include programming apps, weekly assignment on reading technical papers, writing short summary, and presentation. Students are also required to complete a final project working in groups of 2-3 students, present projects in class and complete a written project report.

Grading policy:

- Homework/assignments (including programming exercises): 35%
- Three one-hour exams: 30%
- Class participation (attendance, class engagement/discussion, forums, etc): 10%
- Final Project: 25%

Grading Scale: A (90-100%), B (80 -89%), C (70-79%), D (60-69%), F (0-59%)

Tentative Course Outline/Topics of Discussion

1. Computer Systems, Internet and Information Technologies -- Week 1
- Computer Systems & Operating Systems
- Communications Networking
- Internet and World Wide Web
- TCP/IP Protocol Applications
- Internet, Intranet (local TCP/IP networks)
- Firewalls
- Web Browsers (Internet Explorer, Google, Opera, etc)
- Mobile Browsers (Safari, Opera Mobile/Mini, Microsoft IE for Mobile, Firefox Mobile, Skyfire)
- Web pages (HTML hypertext documents): static, dynamic web pages
- Web Servers
• HTTP Protocol, Client/Server model
• Web-enabled Applications

2. Hypertext Markup Language HTML 5 and Casecading Style Sheet-- Weeks 2, 3, 4
• Introduction to HTML 5
• HTML Structures: Heading, Linking, Images, Lists, Tables, Forms, Meta elements
• New HTML 5 Input Elements and Types, Datalist elements, Page structure
• CSS Part I: Inline styles, Embedded style sheets, Conflicting styles, Linking External style sheets, Positioning elements, Backgrounds, Element dimensions, Box model and Text floe, Media types and Media queries, Drop-down menus
• CSS Part II: Text shadows, Rounded corners, Color, Box shadows, Linear gradient, Radial gradients, Multiple background images, Animation, Transitions and Transformations, Multicolumn layout, Media queries

3. Web Applications with Client-Side Scripting -- Weeks 5, 6, 7, 8
• Intro to Client –side Scripting: JavaScript, VbScript, JavaApplet
• JavaScript Programming I: Control statements, Functions, Arrays, Objects
• Advance JavaScript Programming
• VbScript introduction and Examples
• JavaApplet introduction and Examples
• Advanced HTML 5: Introduction to Canvas

4. XHTML, XML, Ajax-Enabled Rich Internet Applications -- Weeks 9, 10
• eXtensible Markup Language (XML)
  o XML Structuring data, Namespaces, Document Type Definition (DTDs), XML Schema Documents
  o XML Vocabularies
  o Extensible stylesheet Language and XSL transformation
  o Document Object Model (DOM)
• Ajax (Asynchronous JavaScript and XML)

5. Web Servers, Server-side Programming and Databases -- Weeks 11, 12, 13
• Web server selection (Apache, IIS) and implementation
• Common Gateway Interface (CGI)
• PHP (HyperText Processor)
• Server-side scripting: PHP, Perl CGI, ASP.NET, JavaServlet
• Introduction to Ruby and Rails
• Installation and maintenance
• Introduction to Databases (MySQL, SQL, ORACLE, DB2, etc)
• Web security and vulnerabilities

6. Web-Based Applications/Final Project -- Weeks 8- 16