CRN# 13531 CPET 49900-06D Web Systems
CRN# 13532 ITC 25000-01D Web Systems
and
CRN# 13542 CPET 49900-06I Web Systems
CRN# 13543 ITC 25000-01I Web Systems

Fall 2013

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
Department of Computer, Electrical, and Information Technology
College of Engineering, Technology, and Computer Science
Indiana University-Purdue University Fort Wayne
2101 Coliseum Blvd E, Fort Wayne, IN 46805
Office: ET 205C Phone: 260-481-6339 Email: lin@ipfw.edu
Professor's Course Web site: http://www.ecet.ipfw.edu/~lin
My Blackboard Web site: login through mYIPFW

Office Hours:

- Monday 3:00 -5:00 PM, Tuesday 1:00 - 3:00 PM
- Wednesday 3:00 -5:00 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. 2 – Labor Day Holiday
Oct. 4 & 15 – Class suspended (Fall Break)
Nov. 27 – Dec. 1 - Thanksgiving Recess

Text Book

Internet & World Wide Web: How to Program, 5th edition, 2012, by Paul Deitel, Harvey Deitel and Abbey Deitel, from Pearson, ISBN: 978-0-13-215100-9

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 web site for SSD at http://new.ipfw.edu/disabilities/

Course Outcomes
After successfully completing ITC/250 CPET 499, students will be able to

- Understand and 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
- Understand and 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 assignments): 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: JavaSrcipt, VbScript, JavaApplet
- JavasScript 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)
    - XML Structuring data, Namespaces, Document Type Definition (DTDs), XML Schema Documents
    - XML Vocabularies
    - Extensible stylesheet Language and XSL transformation
    - 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
- Installation and maintenance
- Introduction to Databases (MySQL, SQL, ORACLE, DB2, etc)
- Web security and vulnerabilities

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