Course Number: CSC 667/867
Course Title: Internet Application Design and Development
Number of Credits: 3
Schedule: Three hours of lecture/discussion per week.
Prerequisite: a grade of C or better in CSC 413 or consent of instructor.

Catalog Description

The focus of this course is to teach the principles of the technologies that the Web is based upon. It will cover Client-Server architecture, Extensible Markup Language (XML), HyperText Transfer Protocol (HTTP), then client-side applications (JavaScript and Java Web Start/JNLP), programming languages for server-side applications (Python, Java Server Pages and Servlets), and advanced techniques and topics on the WWW.

This course meets Group Project Requirement.

Expanded Description

XML and its applications
Web Servers & HTTP Protocol
CGI using Perl or Python
Web Server Project Discussion
Client-side scripting using JavaScript
Web Application Development Configuration using Tomcat, MySQL and Eclipse
JSP Design of E-commerce applications
Cookie, Session, JDBC, and Tag library
Web Services
Data Exploration using Semantic Web
JLNP, J2ME and Wireless applications

Course Objectives and Role in Program
The objectives of this course include:
- Teach fundamental concepts of how web server works, communicates through HTTP protocols, and support extended features of web server (CGI, authentication, cache, etc).
- Teach fundamental concepts of server side scripting and practical programming (CGI) using Perl and Python
- Teach fundamental concepts of client side scripting and practical programming using JavaScript
- Teach XML and its applications
- Extending CGI to J2EE for E-commerce applications using Servlet, JSP, JDBC, and Tag library)
- Introduction and overviews of other web related applications – Web Services, Data Exploration using semantic web, Java Web Start & JNLP, J2ME & Wireless applications, AJAX)

- Expose the student to Web Application Development Environment using Tomcat, MySQL, Web Tools and Eclipse.
- Expose the students to survey latest topics in Internet Applications and present in front of class.

Learning Outcomes
At the end of this course students will
- Understand how Web Server works (client-server architecture, HTTP protocols, caching and authentication) and be able to build one.
- Understand how E-commerce applications are developed using JSP, JDBC, and MySQL and be able to build one.
- Be able to design, document and develop a large application as a team project.

Method of Evaluation
Student learning will be evaluated on the basis of
• Completeness and quality of programming assignments.
• Grade on midterm and final examination
• Grade on advance topic presentation
• Grade on team term project
• Class participation.

The weight assigned to each element of evaluation will be determined by the instructor of the course on the first day of the class.

Required Textbooks

1. Web Application Architecture, Leon Shklar & Richard Rosen, Wiley Publications.
2. Using Java Server Pages and Servlets, Special Edition, Mark Wutka, QUE Publications.
3. Advanced JAVA: Internet Applications, second edition, Art Gittleman, Scott & Jones Publications.

Recommended Reference
1. Advanced Java 2 Platform, Deitel, Deitel Santry, PRENTICE HALL
2. JavaScript The Definitive Guide   David Flanagan O'REILLY
3. Python How to program, Deitel, Deitel, Liperi, Wiendermann, PRENTICE HALL
4. XML How to Program, Deitel, Deitel, Nieto, Lin, & Sadhu, PRENTICE HALL
5. Professional JSP, Avedal et. al,Wrox publisher
6. Wireless Internet & Mobile Business – How to program – Deitel, Deitel, Nieto, & Stenbuhler, Prenticehall

Modified by: I. Yoon
Last Revision Approved: May 1, 2006