

**William Paterson University of New Jersey**  
**Department of Computer Science**  
**College of Science and Health**  
**Course Outline**

1. TITLE OF COURSE AND COURSE NUMBER: Web Page and Site Design; CS210;  
Credits: 3 (cannot be used to fulfill the CS major requirement)
2. DESCRIPTION OF THE COURSE: Introduction to Web page design, web based multimedia, virtual reality, site management, and non-Web based Internet facilities. Topics include HTML, Javascript, Flash, graphical components, audio, video, on-line forms, and website maintenance. Review and hands on practice with software packages in each category such as FrontPage, Dreamweaver, and Flash.
3. COURSE PREREQUISITES: CS201
4. COURSE OBJECTIVES:
  - The course objective is to extend student knowledge and capabilities in working with web pages and, on a larger scale, web sites.
  - Topics include state-of-the-art software packages in the area of web-page design and management, graphics, audio, multimedia, virtual reality construction, on-line presentation design, Web-based front ends to databases, and scripting/web-programming basics.
  - Introduce fundamentals of web-specific design (not full-scale programming) in Javascript and other scripting languages. Rudimentary overview of PHP database and ASP concepts. Java programming will not be covered but the applet model will be.
5. STUDENT LEARNING OUTCOMES:
  - Students will demonstrate a solid understanding of advanced applications and aspects of computers beyond the scope of CS201.
  - Students will produce professional level web page design and support, including HTML, basic Javascript (prescriptive cookbook style rather than formal programming), elementary Flash, virtual-reality-based page modeling VRML, and other methodologies. Scripting and rudimentary programming capabilities will be developed.
  - Students will be capable of image processing/enhancement and graphics design up to and including animation construction and multimedia incorporation. They will acquire hands-on experience with several packages cited.
  - Students will demonstrate the ability to analyze case study problem situations, prepare strategies for and complete the full composition/setup/implementation and management of several types of web sites including forms collection, front-ends to databases, and virtual reality sites. Measure: exams, surveys, and projects.
  - Demonstrate the ability to think critically and solve problems in the design process.. This includes selection of appropriate page and site organization, choosing the correct tools for a particular problem, and applying those tools effectively to implement solutions. Measure: exams, surveys, and projects.

- Demonstrate the ability to integrate knowledge and ideas in a coherent and meaningful manner. The documents they produce will include content from several sources and their incorporation into effective entities and subsequent exposition, thereby addressing the next learning outcome (cited below). Measure: exams, surveys, and projects.
- Effectively express themselves in written and oral form. In particular, students will construct pages for which they researched (in terms of content) and designed. Measure: projects.

## 6. TOPICAL OUTLINE OF THE COURSE CONTENT:

- Web Browsing vs Web Capturing
- Modes of Execution and Installation
- Web Page Design: Web Editing & Aesthetics
- Web vs True-Type Fonts and a historical perspective on type foundries
- Graphic File Formats and their support on the Web
- Graphical Design and Photo-editing
- Imaging for Windows NT (Wang): Standard Package, Microsoft Photo-Editor, LVIEW, Paintshop Pro, Corel Draw
- Photoshop: Image processing with add-ons
- Web Page Design: Reverse engineering codes with Notepad
- Reading HTML, basics of HTML writing,
- The New Dynamic HTML and advances in ML (historical and the future)
- Web Page Design: Tables, frames, forms,
- Using other Webpage editors and managers (such as Composer, Frontpage, Dreamweaver, 1<sup>st</sup> Page, Arachnophilia, and other packages)
- Web Page Design: Adding sound and multimedia
- Web Page Design: Animation (introduction to Flash)
- Web Page Design: VRML and Virtual Reality
- Web Page Design: Using Javascript pre-designed components and alternatives
- Concept of applets and other components
- Web-Based Presentation Design: Powerpoint extensions, Indexed
- Professional delivery/testing
- Web Site Management
- Web Server software and mechanisms for different types of web-based information processing and transmission/interaction
- Developing Presence on Search Engines
- Issues in Web Page Maintenance over the long term
- Legal and Ethical issues in Web Publication

## 7. GUIDELINES/SUGGESTIONS FOR TEACHING METHODS AND STUDENT LEARNING ACTIVITIES:

- Brief presentations of theory, lectures, and demonstrations followed by intensive hands-on PC sessions characterize this course. Students get to discuss strategies and work in groups in the development process.
- Projects supplement and reinforce these learning activities.
- Designing and creating effective graphics and animation, so as to develop an appreciation

of PC graphics, web-publishing, database integration, applications development environments, and other tools from this process. While productivity is a goal, exploration and discovery should be the spirit in which we endeavor. Programming, in the form of scripting, is not the focus but a component of the design, construction, implementation, and maintenance process.

- Projects are assigned for students to develop professional web pages, construct animations, and conduct design decision making at the level of applications usage and integration. These are started in class but the majority of the effort will be in the labs after class hours.
- Readings are assigned and Internet inquiries are formulated to give students current knowledge of the field.

#### 8. GUIDELINES/SUGGESTIONS FOR METHODS OF STUDENT ASSESSMENT (OUTCOMES):

- Four-five examinations, culminating in a final examination.
- Weekly projects with submitted documents, graphic works, or reports near professional expectation levels.

#### 9. SUGGESTED READINGS, TEXTS, OBJECTS OF STUDY:

- 1) Gottleber, Timothy T., Timothy N. Trainor, & Johny K. Johansson, " Even More Excellent Html With Xhtml, and Javascript" (w/CD-ROM), McGraw-Hill, 2003.
- 2) Bishop, Sherry, and Piyush Patel, "Macromedia Dreamweaver MX 2004—Design Professional", Course Technology, 2004
- 3) Ulrich, Katherine, " Macromedia Flash MX 2004 for Windows and Macintosh: Visual QuickStart Guide", Peachpit Press, 2004.
- 4) Several Handouts and Guides.

#### 10. BIBLIOGRAPHY OF SUPPORTIVE TEXTS AND OTHER MATERIALS:

Adobe Creative Team, "Adobe Photoshop 7.0 Classroom in a Book", Adobe Press, 2002.

Bucki, Lisa, "Macromedia Flash MX 2004 Fast & Easy Web Development", Course Technology, 2003.

Castro, Elizabeth, "XML for the World Wide Web: Visual QuickStart Guide", Peachpit Press, 2000.

Davis, Jack, "The Photoshop 7 Wow! Book", Peachpit Press, 2003 (advanced)

Farrington, Paul & Molly E. Holzschlag, "Interactive: The Internet for Graphic Designers", Rotovision, 2002.

Flanagan, David, "JavaScript: The Definitive Guide" (4<sup>th</sup> ed), O'Reilly, 2001.

Goodman, Danny, " JavaScript Bible" (Gold Ed., 1600 p. & CD-ROM), Wiley, 2001.