Newsletter: Using Computers in Chemical Education Fall 2002

ACS Division of Chemical Education :--Committee on Computers in Chemical Education

Chair : Don Rosenthal Who we are and what we do.

Welcome! The Newsletter is FREE! To be notified when new issues are available, please subscribe.

Scott Van Bramer, who takes care of organizing and monitoring our discussions on Newsletter articles, shares his expertise on using the Web. Our leadoff article by Scott combines an overall picture of what can be done using the Web for teaching as well as some very specific examples and suggestions.

Developing Web Pages for Teaching, Part II

- Creating Web Pages

Part II- Introduction

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The first article in this series, Developing Web Pages for Teaching, Part I - Introduction, discussed the basics of what a web page can do and what might be useful. This second article talks about the details of how you actually create a web page and put it out there for the world to see. There are lots of different ways to do this, and there are lots more details than I can present here. This is simply a starting point to get you moving. It is based upon my experience teaching other faculty how to write web pages. Many of the details will be different for your computer system, but there should be enough information here that you can at least talk to the technical experts at your school to get up
and running. Good luck.

Web Courses in Freshman Chemistry

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Abstract

Four web sites were developed for teaching four sections of freshman chemistry: two sites for science majors, and two sites for pre-nursing majors. The web sites are stand-alone sites linking to WebCT for online testing, bulletin boards discussions, email, and posting of grades. This paper briefly describes the web site development and some comparison of scores of students in two sections of the same science majors' course: one was taught totally online and one was taught totally on campus. Comparing test scores on proctored tests in the science majors' courses, the students in the on-campus course made better scores on the chapter testing than the students in the online course, but the students in the online course scored better on the final exam than the students in the on-campus course. However, the standard deviations of the exam scores of the courses only allows for a "no significant difference" conclusion on the proctored test scores. The two-semester American Chemical Society (ACS) standardized exam scores favored the online students.

Teaching Chemistry Students Using Blackboard as a Platform for "e-education"

Thomas G. Chasteen
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Tom Chasteen is back with a review of many of the techniques he and others have tried. Be sure to check out his links especially to some of the best animations available for teaching Chemistry.

'…In my experience this is a relatively common manner of adopting teaching tools: we choose the tools that we see can provide a benefit. We try lots, discard lots, and keep some. I don't use overhead transparencies in my classes but find use for computer-based PowerPoint® and QuickTime® displayed via a laptop and a projector. E-mail has proven to be something almost indispensable in my teaching...a high speed streaming video server has yet to prove its worth to me in my course work (and I'm the heaviest user of computer animations and video in my department).

I rely heavily on Server-based forums (or discussion groups) in all but my freshman and graduate courses, but so-called virtual chat rooms or white boards just don't find

a place in my courses even though these are part of the Blackboard package. Finally, I use white chalk but find the texture and consistency of color chalk decidedly unappealing and frankly hard to use, so I don't.'

Chemistry Laboratory Web Pages: Photographs

Patty Feist

Lab Coordinator, Organic Chemistry
Teaching Labs at CU Boulder.

Patty demonstrates a number of strategies that has me anxious to get back to taking more lab photographs.

"A picture is worth a thousand words . . . " Using a digital camera and a computer, and a few tricks, chemistry instructors can produce and display high-quality, quick-to-load photos on their web sites. This article guides the novice (or, reluctant instructor?) through camera features, picture-taking, and photo processing for web displays.

Finding Images on the WWW

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Harry has come up with a great article with really useful links, AS usual I didn't even know most of these existed.

The web is an excellent alternative, since many web pages include images. Unfortunately, it can be a discouraging job to find the desired needle in the midst of the two billion pages of the WWW haystack. There are, however, several resources that can make this searching easier and more likely to be successful.

PowerBook G4 and Jaguar

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A number of features strike me when I turn on the PowerBook (800 MHz G4 processor with Velocity Engine, 1GB memory) next to my 20 inch monitor connected to the desktop system.. The 15.2 in diagonal PowerBook screen looks to be similar in size to the 20 in monitor. The PowerBook is 5.5 lbs complete with a much smaller footprint.