

# Newsletter: Using Computers in Chemical Education Fall 2003

ACS Division of Chemical Education :-[Committee on Computers in Chemical Education](#)

Chair : Don Rosenthal [Who we are and what we do.](#)



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## [Current Edition](#)



David and his coauthors have an interesting perspective on developing web-based courses, with insights for developing any material for learning on the Internet.

Editor

[Brian Pankuch](#)

## [A System for Delivering Web-based Courses Emphasizing Automatic Assessment](#)

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This software system was used to deliver 15 courses to inservice high school chemistry teachers. Over 500 graduate credits were earned during the period of project support, and delivery of the courses on a tuition-basis continues today.

Most of the course management was administered on-line, including student registration, course enrollment, delivery of all materials, and online testing. The principal feature of the course was automatic testing, with assessment items delivered in eight formats. Of these, seven were delivered for automatic assessment. The short answer item format included powerful worked out problem strategies such that, upon

responding to a problem question, the student would see a worked solution to the problem developed using his/her problem-specific information.




## Wireless Laptop

Brian Pankuch

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Utilizing three or more different machines makes for a lot of work updating each machine's software, bookmarks, new programs, etc. Additionally keeping and having all the different projects I work on available wherever and whenever I have some spare time is difficult, as is keeping it all backed up.



Daniel is giving us a look at a potentially useful set of tools for setting up learning and testing environments on the Web. We have the opportunity to input our thoughts to make this a useful tool for all of us to use.

## XML for Chemical Education

by Daniel C. Tofan

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The IMS specifications provide standards for question and test item interoperability. These standards define XML encoding of items and offer support for basic response types, such as numbers, text, multiple choice etc. As part of the LUCID Project, which is developing an innovative web-based learning and assessment system along with materials for introductory college chemistry, we have developed XML formats for encoding a variety of chemical entities. Examples include isotopic symbols, molecular formulas, Lewis structures, chemical reactions, and equations with units. Student responses to assessment questions are converted to these formats for storage,

and standard XML parsing utilities are used to convert from XML to Java objects for analysis. Tag sets for formatting styled text and for extending current IMS markup are also under development. The ensemble of these XML formats is intended to provide a framework for course management systems that are chemistry-aware and is called Chemical Education Markup Language, or ChEdML.



This course looks like a good way to learn more about lab safety for us and our students.

[AN ONLINE INTERCOLLEGIATE CHEMISTRY COURSE \(OLCC\):  
CHEMICAL SAFETY: PROTECTING OURSELVES AND OUR ENVIRONMENT](#)

by


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# ABSTRACT

This paper describes a collaborative intercollegiate undergraduate course on chemical safety to be offered during the Fall of 2004. The course will be sponsored by the ACS Division of Chemical Education and the ACS Division of Chemical Health and Safety. One of the purposes of this paper is to inform chemical educators about the course in the hope they will serve as course instructors at their schools. Each school is responsible for recruiting students and assigning grades. The course is expected to be a learning experience for the students and the instructors. No fee is assessed by the sponsors. Local instructors are facilitators for the course and do not have to be experts in chemical health and safety.



It sounds like Scott has experienced some frustration using the usual browsers. You'll find Scott's review of the reasons he uses Opera worthwhile to check against your browser. In particular look at using tabs, cookies and security. He also takes care of organizing and monitoring our Internet discussions of Newsletter articles.

## [Opera: A Web Browser for Teaching?](#)

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If your current web browser meets all of your needs. If you like reading pop-up advertisements. If you like having lots of personal information stored in a cookie file that any web server can view. If you think a web browser should consume all the memory in your computer, even after you think you have closed it. If you like using complex menus for routine tasks. Well, then this article will not be of interest.

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**Harry has some information for us about the ownership of different search engine changing hands, and I'm wondering if I can apply this information to Google becoming a publicly traded stock?**

## [BIG CHANGES AHEAD FOR SEARCH ENGINES?](#)

[Harry E.Pence](#)  
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"...This discussion has focused mainly on five web search engines: Altavista, Hotbot (partially powered by Inktomi), FAST, Google, and MSNetwork. A number of major acquisitions in the past few months suggest that this roster may be in the process of changing. If so, the results would be important to anyone who uses one of these

engines. ".read on