

**INCORPORATING INTERACTIVE COMPONENTS  
TO A WEB-BASED CHEMISTRY COURSE**

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**ABSTRACT**

In our attempt to provide web-based instruction in a general chemistry course, we have put forth certain goals we strive to achieve. These goals include improving course content, instructional strategies that are known to be successful in other environments, and establishing and maintaining student interest. By addressing these three areas in our approach, we have developed a course that represents our vision of a web based course. We discuss the strategies for accomplishing the institution of these elements of instruction that have been incorporated into the course. The items we will highlight include: (1) a feedback mechanism from within the instructional material that provides an immediate student response; (2) an automated question generator for web based presentation; (3) an alternate homework assignment that puts the student in a role of investigator with the goal of solving a mystery; (4) the use of crossword puzzles as homework assignments; (5) a periodic table puzzle used for supplemental instruction through a game like interaction; (6) a web based experiment that incorporates experimental images and data for students to decipher and derive conclusions. In each case, we present the rationale behind the interaction, the instructional benefit desired, the method of development, and student response to the interaction.