

## Creation and Implementation of a Fully Online Organic Chemistry Course

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We have created an organic chemistry course where all components are administered online. Long lectures have been replaced by modules of short webcasts, allowing students to easily access, watch, and rewatch explanations of difficult concepts. Real-time discussion sessions utilize the web conferencing software Elluminate Live. The instructors have no "face-to-face" contact with students; all communication is done online via Elluminate Live-directed discussion sessions, web discussion boards, and email. Homework is administered *via* ACE Organic, a unique organic chemistry coursework interface that enables students to draw chemical structures, reactions, and mechanisms, and gives real-time, automated feedback for incorrect answers. Exams are conducted with a combination of ACE Organic and Elluminate Live. Students take exams at testing centers on- and off-campus with proctors present both in-person and online. Participants in the course come from not only the University of Illinois, but also as far as Beijing, China, and Lahore, Pakistan. Discussion sessions have been conducted anywhere from airport terminals to hotel lobbies without loss of information. Despite the lack of face time, students have had favorable reviews of the course. We find that students have responded well to the change in the course interface, and students' understanding of the course material has not been hindered as a result of putting the course online.

