218b Chemical Ethics in 52 Minutes or Less

Margot Vigeant and Timothy M. Raymond

The need for undergraduate ethics education is widely recognized and explicitly included in ABET accreditation requirements. At Bucknell University, ethics is featured in a three-week segment of the first-year introductory engineering course, is again discussed as a component of senior design, and is touched on when relevant in other core and elective courses. In an effort to introduce more continuity to the ethics curriculum, an explicit ethics component has been added to the seminar series, a zero-credit course which is attended by all students. This course presents special challenges because all levels (first-year through senior) are present and, due to the zero-credit, students cannot be assigned homework. Our goal therefore was to present an ethics case study which was relevant for chemical engineers, compatible with active classroom techniques, and could be discussed within a single 52-minute class period without advance student preparation. We also wished to incorporate a technical element in the discussion which would require students to refer to their ongoing chemical engineering education. The result was a case-study on the Bhopal chemical plant disaster. During the class, students watched a brief video, listened to an overview of the technical aspects of the disaster, as well as a discussion of the AIChE code of ethics. Students were then split into groups, and given short articles to read, from both opinionated and neutral sources, as well as an impartial “fact sheet” listing established facts about the disaster and giving names of involved parties. Students were then asked to discuss the following questions in their grou, and select a representative to present the answers to the class: 1) How could this have been prevented? 2) Who was responsible? 3) What further actions should the responsible party take now? The answers were summarized on the board, and the presenters' assessment of the ethical problem was presented. After the conclusion of the class, interested students were invited to continue the discussion over lunch. The case-study held student interest more than many previous ethics presentations in the same course, and stimulated a good discussion. The materials are portable to other universities interested in including such a class period in their courses, and we hope to develop more chemical case-studies for use in future years.