

Ethics Across the Curriculum
Spring 2008
Chem 260
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My approach towards integrating ethics into Chem 260 (Inorganic Chemistry) was to use a short book published by the National Academy of Science, 'On Being a Scientist: Responsible Conduct in Research'. The book covered the following topics:

- 1) The Social Foundations of Science
- 2) Experimental Techniques and the Treatment of Data
- 3) Values in Science
- 4) Conflicts of Interest
- 5) Publication and Openness
- 6) The Allocation of Credit
- 7) Authorship Practices
- 8) Error and Negligence in Science
- 9) Misconduct in Science
- 10) Responding to Violations of Ethical Standards
- 11) The Scientist in Society

The last ethics segment covered the American Chemical Society's 'The Chemist's Code of Conduct'.

The book costs \$8; however, the publisher allows links to the material if posted on a closed web-site. I posted the link on my Blackboard site for the course so the students would not have to purchase the book and thought this worked very well.

The approach the book used was to first describe each topic and its relevance to science in general. This was followed by a 'real-life' scenario, and then a set of questions to be answered about the scenario. The scenarios often dealt with difficult subjects that had no clear right or wrong answer. In general, I assigned 4 - 6 pages of reading starting the second week of classes accompanied by a homework set that required them to thoughtfully answer the questions about the scenarios. I then collected the homework sets, read through them and prepared to discuss their answers in the next class meeting. In general the discussions took approximately 20 minutes of class time and involved a mix of them reading their answers and explaining why they chose to answer in this way and me adding my own personal experiences, when relevant. Often times the answers to the questions varied greatly among the students, which made for very good discussion.

Overall I thought the integration into the course was a success for the first time around. At the end of the class I gave a brief 'ethics evaluation' for the students to anonymously comment on the segments. The remarks were all in agreement that the ethics segments were valuable and of interest to them and explored topics in science that they hadn't previously considered. There were several comments that hinted that the 'real-life' scenarios were somewhat redundant (although the text reading was good) and that the questions posed at the end of each scenario were the same, merely worded a bit differently. I agree somewhat with this statement.

In future classes I am going to incorporate more *real* 'real-life' scenarios. To this end I obtained a book entitled 'The Ethical Chemist' by J. Kovac, which has examples of ethical lapses in science and how they were handled.