Undergraduate Student Ethics Outcomes

4/28/14 draft developed by the CSM Assessment Committee

Background: The Assessment Committee’s review of the undergraduate assessment reports revealed that some departments have struggled to develop meaningful strategies to assess ethics (particularly in relation to the ABET outcome f.) Several Department Heads acknowledged their frustration related to ethics assessment while developing their ABET reports. In addition, the December 2013 Strategic Plan and The Profile of the Mines Graduate both reference ethical outcomes/behaviors. In response, the Assessment Committee has drafted measurable learning outcomes related to ethical sensitivity, knowledge, and judgment. We have also compiled a list of strategies for assessing these outcomes.

The following ethics outcomes are developmental in nature and describe skills that undergraduate students should attain by the time of graduation. The bullet points are sub-outcomes, which are examples of skills and knowledge that students could demonstrate in fulfillment of the numbered outcomes. Departments may also add discipline-specific skills and knowledge to this list of outcomes.

1. Students will demonstrate ethical sensitivity:
   - Students will identify ethical issues from the perspectives of a variety of stakeholders (client, manager, etc.)
   - Students will describe the ethical issues that are inherent in the roles of professional engineers and scientists.
   - Students will identify the dilemma(s) when presented with an ethical situation.

2. Students will demonstrate ethical knowledge:
   - Students will describe professional norms, principles, and ideals related to their chosen field.
   - Students will identify options for resolving an ethical dilemma.
   - Engineering students will apply the NSPE Code of Ethics to ethical situations that involve engineers, their clients, and the public.
   - Students will analyze ethical dimensions/complexities of a dilemma.

3. Students will demonstrate ethical judgment.
   - Students will apply ethical principles to the evaluation of strategies for resolving ethical issues.
   - Students will evaluate viable courses of action/solutions in response to an ethical dilemma.
   - Students will describe the consequences of a variety of possible solutions to an ethical dilemma.
   - Students will describe how their value systems inform and influence their professional practices.
Strategies for assessing ethics

The following strategies can be viable strategies for assessing student learning outcomes related to ethical sensitivity, knowledge, and judgment.

1. Utilize rubrics to assess essays, case studies, oral reports, etc.
2. Utilize AACU’s VALUE rubric to assess ethical reasoning.
3. Analyze FE exam subscore for ethics and business practices.
4. Solicit student feedback via surveys, reflection papers, interviews, etc.
5. Solicit employer feedback via surveys or interviews.
6. Create exam or quiz questions to assess knowledge of ethical principles.