General Education Annual Course Assessment Form

Course Number/Title: Phil 160/Philosophy of Science  
GE Area  R

Results reported for AY 2013/2014  
# of sections 5  
# of instructors 3

Course Coordinator: Janet D. Stemwedel  
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Department Chair: Peter Hadreas  
College: Humanities & Arts

Instructions: Each year, the department will prepare a brief (two page maximum) report that documents the assessment of the course during the year. This report will be electronically submitted, by the department chair, to the Office of Undergraduate Studies, with an electronic copy to the home college by September 1 of the following academic year.

Part 1
To be completed by the course coordinator:

(1) We assessed SLO 2: Students will be able to distinguish science from pseudoscience.

(2) In each section of the course, we examine the descriptions put forward by various philosophers of what distinguishes science from other human activities and of how to draw a sensible line between science and pseudoscience. Instructors present Popper’s “demarcation criterion” for science, the logical positivists’ “verification principle” (which attempts to distinguish real science, pseudoscience, and meaningless statements), and the hypothetical-deductive model, then introduce a number of theories ranging from the respectably scientific to the wacky (e.g., Freudian psychology, dialectical materialism, global warming, clairvoyance, and “The Secret”) to give students practice in applying these criteria to distinguish science from pseudoscience.

The vast majority of students demonstrated mastery (ranging from adequate to excellent) of this student learning objective. By the end of the semester, most students had demonstrated facility not only at assessing whether the claims of a theory are falsifiable, but also at proposing experimental tests by which the claims might actually be falsified. The use of running examples over the course of the semester seemed to help their comprehension.

(3) We feel that our current course design and methods of assessment are generally working for us. SLO 2 overlaps with central themes of this course, so students get lots of practice grappling with it.

Part 2
To be completed by the department chair (with input from course coordinator as appropriate):

(4) Are all sections of the course still aligned with the area Goals, Student Learning Objectives (SLOs), Content, Support, and Assessment? If they are not, what actions are planned?

Yes – Peter Hadreas, Department Chair
If this course is in a GE Area with a stated enrollment limit (Areas A1, A2, A3, C2, D1, R, S, V, & Z), please indicate how oral presentations will be evaluated with larger sections (Area A1), or how practice and revisions in writing will be addressed with larger sections, particularly how students are receiving thorough feedback on the writing which accounts for the minimum word count in this GE category (Areas A2, A3, C2, D1, R, S, V, & Z) and, for the writing intensive courses (A2, A3, and Z), documentation that the students are meeting the GE SLOs for writing.

The instructor of record provides feedback and grades all writing assignments. The instructor of record welcomes, if not requires, first drafts of all writing assignments and provides feedback on drafts. If sections are exceptionally oversized they are graded by the instructor of record with the assistance of an Instructional Student Assistant. The Instructional Student Assistant must be approved both by the Instructional Assistant Coordinator and the Philosophy Department Chair for their excellence in both composition and their expertise in the field of the philosophy at issue. Whenever an Instructional Student Assistant (ISA) aids in the grading of a large course, s/he provides feedback along with grading. In all cases, when the help of an ISA is employed, the instructor of record must explicitly notify the students of the class that some writing assignments have been graded and feedback has been provided by an ISA. The instructor of record then, if so requested by a student, must reread, provide additional feedback, and regrade the written assignment, if a grade revision is warranted.

Sample exam questions:

Popper claims that a hypothesis is scientific if and only if it has the potential to be refuted by some possible observation. Discuss the extent to which we apply this standard today – that is, whether we use this standard to rule out particular theories as pseudo-scientific, or whether there are some theories we accept as scientific that do not meet this criterion. (Give specific examples, and explain how the theories meet or fail to meet Popper’s criterion.)

Consider the following scenario: Jack and Jill are best friends. One day, for no apparent reason, Jill experiences a sudden fright that convinces her that something terrible has happened to Jack. She tries to put the feeling out of her mind. Later that day, she learns that, in fact, Jack has been badly injured in an automobile accident. It turns out that the accident occurred right about the time she had the feeling that something terrible had happened. Jill finds herself seriously contemplating the possibility that clairvoyance is a reality. What is Jill’s hypothesis? What evidence in this scenario supports this hypothesis? Propose an experiment that would be a good test of this hypothesis, and explain why it would be a good test. On the basis of your proposed strategy for testing Jill’s hypothesis, can we count Jill’s hypothesis as a scientific hypothesis? Why or why not?