To be completed by the course coordinator:

(1) We assessed SLO 1: **Students will be able to demonstrate an understanding of the methods and limits of scientific investigation.**

(2) In all sections of the course, we used essay assignments to assess students’ mastery of this learning objective. One such question asked students to explain the significance of the problem of induction for naïve inductivist accounts of science, and then to critically analyze attempts at solving this problem with respect to the work of Carl Hempel on confirmation and Karl Popper on falsification. The students were required to assess how well some theories fared given Hempel’s approach or Popper’s. Another question asked students to compare the work of Thomas Kuhn, on the one hand, with the works of Imre Lakatos and Larry Laudan, concerning science as a structure. In preparation for this essay question, students had to demonstrate familiarity with other perspectives about science (say, science as methodology). Students were then asked to assess whether they thought scientific theory change was indeed “rational” or not depending upon which theorist they initially sided with. These assignments allowed students to demonstrate familiarity with the notion that there are limits not only to the logical justification of knowledge claims (or to what counts as epistemic “progress”), but that these limits also extend into other epistemic domains, including science. Another essay asked students to compare the way the covering law model works in natural science to the way it works in the social sciences while also considering the issue of holism. As part of this essay, students had to explain some social phenomenon according to a social scientific model and identify the way theory-holism threatens a realist model. This essay assignment allows students to demonstrate that they understand the limits to the natural science models when applied to the social sciences, as well as the differences between what are considered the “hard” and “soft” sciences.

We also used embedded questions on exams to check students’ mastery of this learning objective.

The vast majority of students demonstrated mastery (ranging from adequate to excellent) of this student learning objective. The students that struggled with it seem to have been thrown by the fact that we were examining differing theoretical accounts of scientific methodology.
We feel that our current course design and methods of assessment are generally working for us. We will continue spending time in class drawing analogies between philosophical theories about scientific methodologies and scientific theories about physical phenomena to help students become comfortable with the fact that different theories in the philosophy of science point to different limits of scientific investigation. As well, we will continue to introduce and reinforce the main philosophical accounts of the methods and limits of scientific investigation via in-class writing assignments and discussions focused on applying these accounts to an array of actual theories, followed by deeper engagement with essays and exam questions.

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 – Janet D. Stemwedel, Department Chair

(5) 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:

Given Popper’s account of science, what kind of progress can science make? What kind of progress can we not count on from science?

Given Kuhn’s account of science, what kind of progress can science make? What kind of progress can we not count on from science?

Following a successful test of an atomic bomb, what would each of the following say about the theory of the atom: An instrumentalist? A constructive empiricist? A realist?

Show how the Hypothetico-Deductive model of theory confirmation works on a theory like Darwin’s theory of evolution. (make sure to show the structure of the HD model)

What is the “symmetry principle” in the Sociology of Science and why is it thought to imply a relativist position?

Explain how the Scientific Revolution not only changed ideas about the solar system, but also changed methods and standards of truth claims. Mention at least two characters of the scientific revolution in your answer and what their contributions were to this change.

What is the covering law model of explanation in natural science, and how would it be applied in order to explain the death of a potted plant in a dark room? [be specific in showing how the model works by showing the structure of the model]

Explain the difference between the top-down approach to explanation in the social sciences and the bottom-up approach. Give a brief example of each.
Date: November 13, 2015
From: Janet S. Stemwedel, Chair, Department of Philosophy

In AY 2014-2015, PHIL 160 had four sections, each of which was 21 to 24 students over the limit. All of the faculty members teaching Phil 160 require more than 3000 words in written work from their students, write extensive comments on papers, and provide sufficient time before the end of the semester for students to benefit from the comments. Our practice has to assign frequent short assignments (e.g., 500 word essays) starting early in the term, with comments returned to students on each assignment before the subsequent assignment is due. Some faculty allow students to rewrite papers for a better grade, or encourage students to turn in a rough draft before the final paper. In addition, faculty with a load of over 130 students total for the semester are provided with ISAs, graduate students or senior philosophy majors, to help with grading. ISAs are trained by the faculty members in best practices for grading written work. Faculty for PHIL 160 go over ISA work themselves to keep an eye on quality, and provide additional comments in the process.

Each section of PHIL 160 is interactive and allows plenty of room for student involvement and class discussion, both in Socratic dialogue with instructor and based on small group work in class. In addition, PHIL 160 has students utilize online discussion groups to work through a research assignment for which each student is responsible for multiple written deliverables at the various phases of the assignment. The online discussion groups introduce an element of peer review in addition to the written feedback students receive from the instructor.

As is departmental policy, PHIL 160 instructors make students aware of our “Guidelines on Writing Papers in Philosophy,” a shared set of guidelines made available on our department website. In addition, they encourage students to make use of our Writing Center, which is staffed by ISAs for three days a week with the sole function of providing students who come in with feedback on writing. This is a supplement to faculty office hours, which themselves are devoted to providing writing feedback among other things.