

**Professional Skills Training Grant
Performance Evaluation Plan**

The evaluation of this program will focus on two areas. First, extensive formative feedback on the development of materials and resources for the short courses and web courses will be gathered from the start of the project and analyzed regularly to guide the development and revision of the short course and web course materials. Second, the impact of the short courses and web courses on the development of professional skills among minority students will be assessed.

Because of the importance of the ongoing formative feedback in this materials development project, the evaluation will be conducted primarily as an internal evaluation with regular external review by the project Advisory Board members. Co-PI Matyas has extensive experience in developing and conducting this type of joint internal/external evaluation. Since the project is not a fellowship or award program, potential bias of participant responses is minimal. Students who receive scholarships to the short courses and participate as Beta testers of the Web courses will function as partners in the development process. Therefore, they will be well aware that their positive and negative input is not only welcome but is a critical part of the development process. In terms of summative evaluation, the short courses and Web courses will be evaluated by online surveys with pre and post objective measures of student skills development. Table 11 provides an outline of the formative and summative evaluation process, using the writing and reviewing course as an example. The evaluation questions will be based on the specific objectives for the workshop.

**Table 11
Workshop #1: Formative and Summative Evaluation Description**

Data to Be Collected	Live Course	Moderated Webcourse	Self-taught Webcourse
Pre-assessment: Via online survey at secure APS server. This survey will collect data on both student perceptions of their skills needs and actual assessment of current skill level (see sample questions below).	x	x	x
Examples of work during course: Samples of student work during the course will be collected and examined for evidence that students are learning to apply the principles presented during the course.	x	x	x
Post-assessment: Via online survey. (see sample questions below). This will also ask students their opinions on the value and quality of the course components and overall course.	x	x	x
Follow-up: Via online survey six months after course. Questions will address both student perceptions of the course value and actual assessments of skills. In addition, the survey will ask for examples of how students have utilized the skills learned at the workshop in their research work.	x	x	x
Sample Pre- and Post-assessment Items on Skills (Note: Additional items will be developed and ALL items will be pilot tested before use in short courses or Webcourses)	Related Objectives (see Table 7)		
<i>Briefly list the major steps in the submission and review process for a journal manuscript</i>	1 d		
<i>Describe two issues to consider when deciding who will be an</i>	3 a, 1 d, 1 e		

<i>author on a paper or meeting abstract</i>	
<i>List two journals in your field in which you might publish and indicate how they differ in focus</i>	1 a
<i>Read the following abstract. List two areas where the abstract could be strengthened.</i>	1 c

Surveys will be conducted online to ensure confidentiality of student responses and reduce data entry errors and costs. Students will be identified by a participant number to allow matching of entry, exit and follow-up surveys. All data will be handled with confidentiality and safeguards appropriate for professional development educational projects. The APS has built a secure website for the submission and review of materials for the APS Archive of Teaching Resources. This secure website will be used to gather data for the evaluation of the project. Student responses will go directly into a secure database, accessible only by project staff. Participants will be made aware of these safeguards. All responses will be treated confidentially and student names will not be associated with any comments or examples in the evaluation reports.

Live Short Course Evaluation: The short course will be evaluated for formative feedback and for short-term impact by pre- and post-assessments (Table 11). The pre-assessment will provide a baseline assessment of student skills and perspectives related to the workshop topic. The post-assessment, as well as examples of student work from the course, will document short-term impacts of the course. Six-month follow-up surveys will be conducted to assess long-term usefulness and impacts of the short course. In the final year of the project, workshop participants from the first three years' short courses (and web courses) will also be asked to provide a second round of long-term feedback.

Moderated and Self-taught Web Course Evaluations: Formative evaluation feedback for the web courses will be provided by both the Advisory Board and the Beta-test group. When finalized, the web course will include a pre and post assessment to be completed by those who use the course (Table 11). Examples of student work will also provide evidence of course impacts. These data sources will provide indicators on the impact of the course on student skills, understanding of issues, and knowledge about available resources. In the final year of the project, web course participants from the first three years will also be asked to provide a second round of long-term feedback.