

Learning Assessment Worksheet

1. Please describe your program's specific learning goals (list as many as appropriate; use 1-2 sentences to describe each):

1. Modern day experimental biology holds great promise for understanding the cause and nature of human disease. However to harness this promise it is important for students to be familiar with and trained in a multi-disciplinary approach. Course work in our program is designed to increase familiarity and proficiency in current practical and theoretical aspects of Cellular Biology, Molecular Biology, Developmental Biology, Biochemistry and Genetics. We believe that a strong foundation will allow students the comfort to move between disciplines as they seek to answer questions in the future.
2. The ability to adjudicate the veracity of arguments is a trait that distinguishes exemplary scientists. Beyond the lecture based learning in the coursework there is a great amount of reading in the primary literature and discussion of the work in a critical manner. Additionally, we have another course taken in the first year, Logic and Critical Analysis, in which students are taught the proper way to do this. Such discussions are generally led by senior students in a teaching assistance ship position
3. Students will conduct original and significant research leading to contributions to their chosen field of study.
4. Students will become proficient in presenting scientific data in a public forum, through both oral and written presentations.
5. Students will gain experience in writing and reviewing grant proposals (new: tried for the first time in Fall 2011).

2. Does your program have a process in place to assess whether the students meet the defined learning goals? If so, please describe this learning assessment process, including who is involved, frequency of the assessment, and how the information is used:

1. During the first two years in the program, goals 1 and 2 are assessed through written exams. Goal 2 is also assessed via small group discussions within the "Logic and Critical Analysis" class. Students are assessed by course directors and individual faculty who design exam questions.
2. Progress in goal is assessed throughout the student's tenure in the program. The students progress in three 3-month laboratory rotations over the first year is assessed by their PIs who submit written evaluations to the program office and first year mentors who lead an evening discussion group that meets approximately every two weeks where the students present their work in a formal manner. These evaluations are reviewed by the first year advisors, program directors, and the curriculum committee. After a student has chosen a thesis laboratory, their progress is assessed annually through special committee meetings. Written evaluations are obtained from all faculty members of the student's special committee and submitted to the program office.
3. Goal four is addressed through a requirement that all students present their research at a public forum at least once a year. This format can consist of any national or international scientific meeting, the annual DeVignue Symposium, or the annual program retreat. Assessment of the student's progress is made during the annual special committee meeting.

rBCMB

4. Goal five is addressed and assessed through the Admission to Candidacy Exam (ACE) which is taken by students at the end of their second year. Students are given a grant writing class, which is used as a format to introduce students to how formulate scientific hypotheses in a written format. This serves as an introduction to the ACE process. A students ACE is assessed in two steps: first by a special “ACE committee”, and second by a committee of five faculty members who conduct an oral exam.
5. A final assessment of the student’s overall performance and maturation in all goals is through the final exam and thesis defense. This assessment is conducted by the student’s special committee.

3. Does your program currently systematically collect, store, and/or use for learning assessment at the program level any of the following outcome measures:			
	Collect systematically (Y/N)	Electronically or paper stored (E/P)	Use for learning assessment (Y/N)
Direct measures:			
• Results of exams/tests for individual courses	Y	E	Y
• Results of Admission to Candidacy Exam	Y	E and P	Y
• Quality of dissertations (eg, by sampling identify trends)	N	N	N
• Number of student publications and abstracts	Y	E	N
• Quality of students' presentation skills	Y	E	Y
• Program metrics (eg, time to degree, completion rates)	N	N	N
• Other (please describe):			
Indirect measures:			
• Student feedback			
o Student surveys	N	N	N
o Focus groups	N	N	Y
o Exit interviews	N	N	N
• Alumni survey	N	N	N
• Career tracking	N	N	N
• Other (please describe): Meetings with Student advisory committee. The program co-directors meet quarterly with a student committee consisting of one student from each class. These students suggest solutions to problems, ideas for	Y	N	Y

rBCMB

<p>improvement, feedback on coursework, etc. The program directors incorporate the student's suggestions into changes in the program. For example, the current grant writing class was created in response to a suggestion from students.</p>			
---	--	--	--

<p>4. Does your program regularly review and adjust (1) the program's specific learning goals, and/or (2) the manner in which outcomes are measured and how the information is used? If so, please describe how this is done:</p>
<p>The program co-directors present a "state of the program" assessment twice each year; once to a committee of program chairs and once to the curriculum committee. The curriculum committee consists of all course directors and the chair of any individual committee involved in the program. All aspects of the program are critically evaluated at these meetings and appropriate changes are made. Learning goals are assessed as are the methods used to measure student progress. Any changes to the curriculum are made during these meetings.</p>