Physics and Engineering
Assessment Plan Schedule

Program Learning Outcome†	2011-12	2012-13	2013-14*	Measurement Tool	Criteria for Success
Develop an understanding of the fundamental principles of physics	Give in PHY362	Give in PHY475	Give in PHY475	Major Field Achievement Test in Physics. Test administered in PHY475.	At least 50% of students will score higher than the 40th percentile on the MFAT in Physics
Apply physical principles, mathematical reasoning, and computational techniques to solve real-world problems	Collect data in PHY401, Initial Rubric Developed	Collect data in PHY431, revision of Application Rubric	Collect data in PHY361 or PHY401	Embedded Assignment given in upper division mastery class on a rotating basis. Juried as a department.	At least 65% of students will achieve an average score of 3 or higher on criteria described in application rubric.
Design and conduct experiments as well as analyze and interpret data	Early Development of Advanced Lab Rotations	Develop rubric in the Fall. Collect data in the spring in PHY475	Collect data in PHY475	Senior Lab Signature Assignment (Design, build, test) in PHY475. Evaluated using rubric by department	At least 65% of students will achieve an average score of 3 or higher on criteria described in experimental technique rubric
Demonstrate good ethics in science		Investigate existing instruments, initial year of data collection	Data collection	Ethics in Science Questionnaire, short answer scenarios	At least 80% of students show knowledge and practice of ethics in science as established by a ethics rubric
Effectively communicate complicated technical information	Develop structure of PHY475	Develop Ruberic in the fall assess PHY495	PHY475 data collection	Imbedded Signature Assignment: Senior Lab Written Report and Senior Lab oral presentation in PHY475	At least 65% of students will achieve an average score of 3 or higher on criteria described in the oral and written communication rubrics
Effectively collaborate in teams		Develop rubric in Fall, implement in Spring PHY495	Possible revision, collect data in PHY495	Embedded Assessment of a team project in Seminar (PHY495)	At least 65% of students will achieve an average score of 3 or higher on criteria described in the teamwork rubric

† Currently the physics and engineering program learning outcomes are similar enough, that the same measures are being used. Thus this schedule can be used for both the Engineering Physics and for the Physics Programs.

* Physics and Engineering Department Review will occur in 2013-14.