Physics and Engineering
Assessment Plan Schedule

Program Learning Outcome†	2015-16	2016-17	2017-18	Measurement Tool	Criteria for Success
Students will develop an understanding of the fundamental principles of physics.	Give in PHY475	Give in PHY475	Give in PHY475	Major Field Achievement Test in Physics taken by seniors in the capstone course PHY475.	At least 50% of students will score more than the 40th percentile on the MFAT in Physics.
Students will apply physical principles, mathematical reasoning, and computational techniques to solve real-world problems.	Collect data in PHY361	Collect data in PHY431	Collect data in PHY361	Embedded final exam question given in upper division mastery class on a rotating basis.	At least 75% of students will achieve an average score of 2.5 or higher on criteria described in application rubric.
Students will design and conduct experiments or complete engineering design projects as well as analyze and interpret data.	PHY475 data collection	PHY475 data collection	PHY475 data collection	PHY475: Senior Lab final project highlighting de- sign.	At least 75% of students will achieve an average score of 2.5 or higher on criteria described in experimental rubric.
Students will effectively communicate complicated technical information in writing. (CC: WC)	PHY475 data collection	PHY475 data collection	PHY475 data collection	PHY475: Senior Lab final written project. Juried as a department. ETS Proficiency Profile: Writing	At least 75% of students will achieve an average score of 2.5 or higher on criteria on the Written Presentation rubric. ETS PP: 75% of the students will be marginal or proficient at Reading/Critical Thinking Level 2.
Students will effectively communicate complicated technical information orally. (CC:OC)	PHY475 data collection	PHY475 data collection	PHY475 data collection	PHY475: Senior Lab project technical talk. Juried as a department;	At least 75% of students will achieve an average score of 2.5 or higher on criteria on the Oral Presentation rubrics.

Students will be able to identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand. (CC: IL)	PHY475 data collection	PHY475 data collection	PHY475 data collection	PHY475: Senior Lab final written project. Juried as a department.	At least 75% of students will achieve an average score of 2.5 or higher on criteria on the information literacy part of the Written Presentation rubric.
Students will effectively collaborate in teams.	Collection in PHY304L	Collection in PHY304L, possible revision	Collection in PHY304L	Teamwork survey taken, and faculty evaluation of the teams. This survey and evaluation is done in PHY304L.	At least 75% of students will achieve an average score of 2.5 or higher on criteria described in teamwork rubric.
Students will be able to understand and create arguments supported by quantitative evidence. (CC: QR)	PHY475 data collection	PHY475 data collection	PHY475 data collection	ETS Proficiency Profile: Mathematics	75% of the students will be marginal or proficient at Mathematics Level 2.
Students will be able to think critically (CC: CT)	PHY475 data collection	PHY475 data collection	PHY475 data collection	ETS Proficiency Profile: Reading/Critical Thinking	75% of the students will be marginal or proficient at Reading/Critical Thinking Level 2.

† Currently the physics and engineering program learning outcomes are similar enough, that the same measures are being used.