

Physics and Engineering Core Competencies

Core Competency: Written Communication

Measure: Senior Lab final written project.

Criteria for success: At least 75% of students will achieve an average score of 2.5 or higher on Written Presentation Rubric

Longitudinal Data:

	2012-13	2013-14	2014-15	2015-16
N of Students	8	7	8	14
% above 2.5 met criteria	75% yes	- no	100% yes	100% yes

Conclusions Drawn from Data: Students are typically doing well. Additional instruction and checkpoints through the the writing process resulted in better products in 2015 and 2016. These changes will be kept for the future. Additionally more rigorous writing assignments have been added at other points in the curriculum (such as in PHY304L.)

Core Competency: Oral Communication

Measure: Senior Lab oral presentation

Criteria for success: At least 75% of students will achieve an average score of 2.5 or higher on the oral Presentation Rubric

Longitudinal Data: Data from Senior Project Talks:

	2012-13	2013-14	2014-15	2015-16
N of Students	8	7	8	14
% above 2.5 average score met criteria	88% - yes	100% 3.2 yes	100% 3.4 yes	100% 3.6 yes

Conclusions Drawn from Data: Students skills in speaking in the context of technical talks are generally quite good. It would be helpful to build in some additional practice with speaking about technical concepts earlier in their academic career.

Core Competency: Information Literacy

Measure: Senior Lab final written project.

Criteria for success: At least 75% of students will achieve an average score of 2.5 on selected criteria from Written Presentation Rubric

Longitudinal Data:

	2012-13	2013-14	2014-15	2015-16
N of Students	8	7	8	14
% above 2.5 met criteria	25% no	- no	63% no	86% yes

Conclusions Drawn from Data: Students are generally good a discerning good sources of information, but have struggled correctly citing these sources in a formal document without significant

prompting. Further emphasis should be placed on this both through the major, as well as more strongly emphasized in their senior write-up.

Core Competency: Critical Thinking

Using ETS data

Core Competency: Quantitative Reasoning

Measure: Major Field Achievement Test in Physics

Criteria for success: At least 75% of students will achieve within the 30% percentile.

Longitudinal Data:

	2007	2008	2009	2012	2013	2014	2015	2016
N of Students	5	6	9	7	7	6	8	14
Above 30th	75%	72%	57%	83%	72%	72%	75%	86%

Conclusions Drawn from Data: Though students graduating in physics and engineering physics excel at quantitative reasoning, this may not be the best measure or criteria. Typically we will have approximately 2 students a bit below the 30th percentile. ETS data would probably be sufficient.
