

Physics BS Assessment Plan (May 2016)

Program: B.S. in Physics

1. Learning Objectives

The Physics Department provides an opportunity for students to develop analytic reasoning and experimental methods as applied to the study of space, time, matter, and energy. Students can train in professional physics, physics for secondary education, or applied physics. The professional physics emphasis trains students for further graduate studies in physics or a closely related discipline, the secondary education emphasis prepares students for licensure as high-school physics teachers, and the applied physics emphasis trains students for careers that require knowledge of physics such as medicine, engineering, business, and the military.

Students will be prepared for success in these endeavors through:

1. Knowledge of the basic principles of physics
2. Familiarity with the use and design of equipment to make physical measurements, and development of the skills and knowledge necessary to aggregate and analyze the data from such measurements.
3. Appropriate attitudes central to the practice of physics, including diligence, tenacity, and an appreciation for the scientific methodology used in posing and solving problems in physics.

2. Explanation of Methods

The following chart lists the methods to be used, as well as a description of each method, a timeline for implementation, the person responsible, and the objectives each method addresses.

Method	Description/Target	Timeline	Person Responsible	Objectives Addressed
Entry and Exit Exams in First-Year Physics	A subject content test is administered to students in each of the first two semesters of the intro physics sequence both before and after the course. The first year subject test will also be administered to graduating seniors as a way to assess retention and enhancement of introductory physics knowledge.	Each year	Chair of undergraduate committee.	1
Observation during intermediate laboratory course	The instructor for the intermediate laboratory course (PHYS 373) makes observations on the student's laboratory skills and attitudes and compiles a report.	Each year	Instructor for Intermediate Laboratory	2,3
Senior Capstone Course	Students prepare a 10-minute talk and approximately 5- page paper on a research topic in physics. Students meet with the undergraduate committee for an exit interview. The Capstone also includes a comprehensive subject exam based on the physics GRE.	Each semester	Chair of undergraduate committee, undergraduate committee and faculty as a whole.	1,2,3
Survey of Alumni Employment Outcomes	A survey will be made of BS Alumni employment outcomes. This will be used to determine how well the program prepares graduates, how well it meets their professional needs, and how the curriculum could be improved.	Every year	Chair	1,2,3

Outcomes-by-Methods

Table demonstrating which outcomes are addressed by each method of assessment:

	Entry and Exit Exams	Lab Observation	Senior Capstone	Alumni Outcomes
1. Knowledge	x		x	x
2. Experimental ability		x	x	x
3. Attitudes		X	x	x