

# Annual Assessment Report AY16-17

Academic Year: 2016-2017

Department: Physics

Program(s):

## 1. What Was Done

Based on our assessment plan, we evaluated program learning outcomes 2 and 4 this year.

2. Breadth of knowledge: Graduates are also expected to have knowledge at the introductory level in the additional (elective) topics of physical and geometrical optics, laser physics, thermodynamics and statistical physics, astronomy, solid-state physics, special relativity, atomic physics, astrophysics, nuclear physics, and particle physics.

4. Problem-solving skills: Students are expected to be able to formulate and solve problems analytically and numerically. Their mathematical skills are expected to include working knowledge of calculus (including vector calculus), ordinary and partial differential equations, and linear algebra, as well as advance mathematics skills obtained from math elective coursework.

## 2. What Data Were Collected

Assessment of breadth of knowledge is scores on exams, quizzes, homework, and other graded coursework in physics from PHSX 305, PHSX 427, PHSX 446, and PHSX 451. Students are expected to submit written work in each course and to participate actively in classroom discussions and presentations. Laboratory courses require increasingly complex written reports. These assessments are the responsibility of the instructors of the courses who grade coursework using the scoring rubrics.

Assessment of problem-solving skills takes place continually through assignment and grading of homework sets and examinations in all physics from PHSX 301 and PHSX 331. These assessments are the responsibility of the instructors of the courses.

## 3. What Was Learned

The overall average score for all courses is a 3.4 (well above acceptable and above exceeds expectations). Each course was individually above acceptable and most were above exceeds expectations.

## 4. How We Responded

No changes are needed in PHSX 305, PHSX 301, and PHSX 427. Modifications in PHSX 331 are required to more adequately reflect the computational needs of the students. Insufficient time was spent on coding in Mathematica compared to other program languages. A review of what other coding languages are needed will be made.