



Program Assessment Report (PAR)

Physics, BA (PHY) Baccalaureate Degree

REPORT PREPARED by: Foy, Brent D.

ACADEMIC YEAR COVERED BY THIS REPORT: 2020-2021

I. PROGRAM LEARNING OUTCOMES

Graduates will be able to:

- Apply and integrate sound knowledge of multiple core areas of physics including mechanics, modern physics, electricity and magnetism, optics, and instrumentation (Outcome 1).
- Demonstrate the design, completion, and analysis of fundamental physics experiments (Outcome 2).
- Analyze and communicate physics knowledge and problem solving skills effectively in multiple oral and written representations (Outcome 3).

II. PROCEDURES USED FOR ASSESSMENT

A. Direct Assessment

In the spring of 2019, the current Physics Department became aware that there had been no previously developed assessment program for the B.A. Physics degree program. The Department is currently endeavoring to develop a plan for direct assessment of the program. This effort was significantly delayed due to complications and work load associated with the COVID 19 pandemic especially as the department's undergraduate committee had planned on devoting considerable time in the spring of 2020 to working on this issue. This issue is complicated in that there are two tracks within the B.A. Physics program that students can complete. One is the traditional B.A. program and another is the Physics Education Concentration which prepares students to become high school physics teachers. The American Physical Society (APS) is currently finalizing the Effective Practices for Physics Programs (EP3) Project. EP3 will provide a guide for self-assessment of undergraduate physics programs founded on documented best practices linked to measurable outcomes. The American Physical Society (APS) is a nonprofit membership organization working to advance and diffuse the knowledge of physics through its outstanding research journals, scientific meetings, and education, outreach, advocacy, and international activities. It had been expected that the EP3 guide would have been available by now, but its release was delayed and is now scheduled for early 2021. The Wright State University

Department of Physics has delayed making any significant modifications to its assessment design and implementation until access to EP3 is possible. The WSU Physics Department is committed to developing and utilizing an assessment approach that is viewed as the gold standard, as outlined in the EP3 guide, as regarded by the national physics community.

B. Scoring of Student Work

Per the department's efforts to develop a direct assessment plan for the B.A. Physics degree, how direct assessment will be quantitatively scored is a work in progress.

C. Indirect Assessment

Exit interviews with recent graduates will be used to measure all three outcomes. Every third year an alumni survey will be conducted. Assessment of the program will also be accomplished indirectly via tracking outcomes of the current academic year's graduating seniors in regard to career trajectories.

III. ASSESSMENT RESULTS/INFORMATION:

1. Direct Assessment
2. Indirect Assessment

No students graduated from the BA program during the 2020-2021 academic year.

1. None 2. As none of these students are currently in positions that directly utilize physics skills, no analysis in relation to learning outcomes can be done at this time. If and when the 3 teachers-in-training receive physics teaching positions, such analysis would be appropriate.

IV. ACTIONS TO IMPROVE STUDENT LEARNING

The assessment situation was shared at a faculty meeting. As mentioned, a more tailored assessment plan for the BA program is under development.

V. SUPPORTING DOCUMENTS

Additional documentation, when provided, is stored in the internal Academic Program Assessment of Student Learning SharePoint site.

