Physics Education: Skills for 21st-Century Workforce

Congress should reject the White House’s proposed FY19 cuts to ESSA Title II-A and Title IV and instead continue to provide robust funding for those titles.

The Every Student Succeeds Act (ESSA) supports STEM education

- Titles II-A and IV directly support STEM (Science, Technology, Engineering, and Math) education
- ESSA passed overwhelmingly by Congress in bipartisan manner; signed into law in December 2015

Quality physics teachers are critical for developing the STEM workforce

- The White House supports STEM education through several initiatives, including a requirement for the Dept. of Education to make STEM a priority.
- Physics is an essential class for equipping the next generation STEM workforce with required skills and knowledge.
- There is a nationwide shortage of appropriately trained physics teachers in middle and high school – only 37% of physics high school teachers have a degree or certification in physics.

ESSA Titles II-A and IV strengthen STEM education

- Title II-A allows states to fund teacher preparation academies such as APS’s PhysTEC program at universities, which prepare physics majors to be high-quality teachers when they graduate.
- Almost all PhysTEC graduates go on to teach in local K-12 schools – a direct local benefit.
- Title IV allows states to put money toward informal and afterschool programs that enhance students’ STEM learning.
- 89% of PhysTEC graduates go on to teach.

PROJECTED JOB OPENINGS FOR TYPES OF STEM OCCUPATIONS (2014-2024)

- Computer occupations
- Engineers
- STEM-related management
- Life and physical science technicians
- STEM-related sales
- Life scientists
- STEM-related postsecondary teachers
- Physical scientists
- Mathematical science occupations

2.3 M STEM job openings projected from 2014-2024

State of ESSA Titles II-A and IV in the budget process

- The White House’s FY19 budget proposal eliminates funding for Title II-A and Title IV.
- The House has proposed to fund ESSA at almost the same levels as FY18 (Title II-A at around $2 B, Title IV-A at $1.2 B, and Title IV-B at $1.2 B).