



Problem-Based Learning in Advanced Photonics Manufacturing (APM-PBL)

Springfield Technical Community College

DUE #1801115

Project Overview

This three-year curriculum and faculty professional development project will increase the STEM pipeline of high school and community college students prepared and motivated to pursue careers in photonics technology through the use of problem-based learning (PBL) focused on advanced photonics manufacturing. The project will improve photonics technician education in the Northeast by developing a comprehensive series of interdisciplinary multimedia PBL instructional modules, or “Challenges,” focused on real-world issues in advanced photonics manufacturing faced by industry.

Working in partnership with advanced photonics manufacturing industry partners across New England and New York, the APM-PBL project will build upon the successful NSF-ATE PHOTON PBL, STEM PBL and AM-PBL projects of the New England Board of Higher Education projects to:

Project Goals

- Create 8 new multimedia PBL Challenges focused on real-world problems in advanced photonics manufacturing
- Provide professional development for high school, community and four-year college STEM educators across the Northeast in advanced photonics manufacturing applications, PBL pedagogy and classroom implementation strategies
- Develop a comprehensive recruitment strategy for increasing the pipeline of high school and community college students motivated and prepared to pursue career pathways in advanced photonics manufacturing, and
- Conduct scholarly research on the efficacy of PBL with regard to improving advanced photonics manufacturing education in the Northeast.



Project Website: www.pblprojects.org

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