The fall 2017 and spring 2018 semesters were used primarily for current curriculum surveying, literature review, planning, and procurement of materials and equipment for two modules under development through the Steel Curriculum Development Grant.

An analysis of the manufacturing and characterization laboratory equipment at Penn State Erie, The Behrend College was carried out, followed by a trip to the Materials Research Institute (Millennium Science Complex) at the Penn State University Park campus. Then an analysis of the lab capabilities available at the Millennium Science Complex and a comprehensive literature review of available steel properties/processing/microstructure labs were carried out. After the literature review was complete, undergraduate students from Penn State Erie, The Behrend College began putting the topics and framework of labs for Module 1.

I attended AISTech 2018 in May. In addition to giving a presentation at the University-Industry Relations Roundtable luncheon, I met with AIST Foundation Steel Professor Dr. Laura Bartlett of Missouri University of Science and Technology, regarding the steel research and steel curriculum development efforts at Penn State Erie, The Behrend College.

The development work will continue through fall 2018 prior to the Module 1 curriculum pilot run in spring 2019.

A used Struers auto polisher was installed in the Advanced Manufacturing and Innovation Center Materials Characterization Lab at Penn State Erie, The Behrend College in May 2018. After students return for fall 2018 semester, a significant amount of work is planned to be carried out on the metallography and SEM characterization labs.

During spring 2018, early development work was simultaneously carried out on Module 2.

I am the primary faculty member currently working on the AIST Curriculum Development efforts. Amber Nolf and Tyler Grimm are the primary students assisting in the effort. Elizabeth Gaughan has also been providing indirect support for the curriculum development effort. Jerry MaGrav, David Honard and Glenn Craig have helped with microscopy training, installation of metallography and heat treatment equipment, and cutting of steel specimens.