Millersville University’s Science, Technology, Engineering and Math (STEM) programs are the first of their kind to get approval by the state, according to Pennsylvania’s Department of Education (PDE). The University has two programs approved, one for graduate level students and another for undergraduate students.

Teachers and undergraduate teacher candidates who complete these programs will be able to better prepare their students for the integrative STEM demands. These programs build upon Millersville’s existing math, science, technology and engineering education courses taught by full-time faculty experts.

The STEM programs certify that prospective and practicing teachers possess the knowledge and ability to teach in the STEM area “to inspire the next generation of STEM professionals,” said Dr. Nanette Marcum-Dietrich, associate professor of educational foundations.

The graduate level STEM program was the first in the state to get approved. Dr. Marcum-Dietrich and Dr. Oliver Dreon, associate professors in educational foundations, led the development of the graduate level program.

The graduate level STEM program is offered completely online. The endorsement is available for teachers of all levels and includes accelerated seven week courses totaling 12 credits, or four courses. Credits earned for courses will count toward ACT 48 requirements.

In addition, the undergraduate level integrative STEM (iSTEM) program is currently the only undergraduate level program endorsed by PDE.

Dr. Sharon Brusic, associate professor in Applied Engineering, Safety & Technology and Dr. Jennifer Shettel, associate professor of early, middle and exceptional education led the creation of the undergraduate integrative STEM education endorsement program.
Designed for students studying to be early childhood education teachers, the undergraduate level iSTEM education endorsement program requires students to complete four courses. Unlike the graduate program, the undergraduate program has courses that meet face-to-face. These courses provide hands-on experiential activities and field experiences.

“In addition to the endorsement, we are in the process of proposing a new undergraduate iSTEM Education Methods minor that would require an additional two courses beyond those in the endorsement,” said Jeff Adams, associate provost for academic administration.

“The STEM endorsements were a real labor of love and involved folks from three different departments: Educational Foundations; Early, Middle and Exceptional Education; and Applied Engineering, Safety and Technology,” said Dreon. The entire process took three years to complete.

Other colleges that have STEM endorsement programs for teachers are DeSales University, King’s College and Lebanon Valley College.

For more information about the graduate STEM program, please contact Dr. Nanette Marcum-Dietrich at (717) 871-7325 or Nanette.Dietrich@millersville.edu. For information about the undergraduate iSTEM program, please contact Dr. Sharon Brusic at (717) 871-5548 or Sharon.Brusic@millersville.edu.