Development of a STEM Program for Teacher Educators

Joanna A. Badara[1] [Buket Barkana, Nelson Ngoh, Allen Cook]

The School of Engineering and The School of Education at a regional higher education institution currently collaborate on developing a STEM curriculum for secondary science teachers. This involves the development a new STEM-based course (Neuroscience for Teachers), improve an existing STEM-based course (STEM for Teacher Educators), and to provide science teachers with high-quality professional development opportunities. The Neuroscience for Teachers course will be designed to provide participants with an overview of human cognitive development, including theory and research concerning new advances in neurosciences pertaining to the specific processes that promote and interfere with learning. The STEM for Teacher Educators course will be improved to offer base-level information on the theory and use of digital imaging and audio to improve the understanding of mathematical and science concepts, thus providing opportunities for participants to view subject matter in new perspectives and develop science lessons. This interdisciplinary initiative is intended to improve the quality of STEM teachers, result in improved interest in STEM careers in K-12 schools, increase the satisfaction, motivation and commitment to become STEM teachers, develop a robust collaborative relationship between STEM departments and education departments, and provide specialized, in-depth and advanced knowledge and skills in the discipline. This initiative also plays an important role in the early development of a STEM program in the School of Education.

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[1] University of Bridgeport, 126 Park Avenue, Carlson Hall 117, Bridgeport, CT, 06604

ibadara@bridgeport.edu