**Title:**

Implementation of an Online Summer Bridge Program Designed to Accelerate Mathematics Preparation for STEM Degrees

**Abstract:**

Mathematics is a common barrier to success for students interested in STEM fields, particularly for students from historically underrepresented minority (URM) populations. Every fall at Northern Kentucky University, an estimated 50-60 students (40% URM) are admitted indicating a desire to major in a STEM discipline but are unable to initially declare due to math requirements. In addition, among all incoming students declaring STEM majors (~400), approximately 57% are not prepared to take Calculus; URM STEM majors are disproportionately impacted with 87% not prepared to take Calculus.

The STEM Ready program consists of a two-week bridge program and first-year seminar support courses aimed at increasing access, retention, and graduation rates of URM students in STEM by improving math readiness for students enrolled in or interested in STEM programs. The two-week bridge program consists of programming in four areas: math content using the Assessment and Learning in Knowledge Spaces (ALEKS) system; guided STEM research projects in biology, chemistry, and data science; study skills sessions emphasizing growth mindset; and developing a sense of place on campus.

This summer, 22 students enrolled in an online version of the STEM Ready program, 7 of whom advanced their skills enough to result in placement in a higher-level math course. Lessons learned from this pilot program will be incorporated into the online and face-to-face versions that will take place in the summer of 2021.

**Keywords:**

STEM, math readiness, bridge program