Students enrolling in developmental mathematics courses face significant obstacles while pursuing a science, technology, engineering or mathematics degree that requires even basic levels of mathematics mastery. The gap between their self-perceived abilities and the expectation of most university level mathematics courses can strongly impact their performance, in turn impacting retention of STEM-intending developmental mathematics students in STEM fields. At West Virginia University, a non-credit-bearing program had been offered to students in past thirty years attempts to provide a bridge to college level mathematics for students whose backgrounds are significantly deficient. In the fall of 2015, this program became a credit-bearing university course; and in 2016 we began a peer-mentoring program for students who enrolled in this course. In this presentation, we will present some preliminary results from the peer-mentoring program with respect to retention of STEM-intending developmental mathematics students. This peer-mentoring program is part of a larger project that also looks at students’ anxiety and personality traits and we will also present correlations between the success of students in the peer-mentoring program and these affective traits. (Received September 20, 2016)