This paper describes the development, results, and future directions of the mathematics component of the English & Math Enrichment, Readiness & Growth Experience (EMERGE) Summer Program at Northeastern Illinois University (NEIU), a Hispanic serving institution in Chicago, Illinois. During summers 2014 and 2015, the EMERGE Summer Program offered a 3-week English session and a 3-week math session for new incoming freshmen at NEIU. To participate in the math session, students must have completed NEIU’s math placement exam and placed into math development course. The math session aimed to help students strengthen their mathematical foundation, gain confidence in their mathematical abilities, and gain the skills needed to successfully place into a higher-level math course. The mathematical learning environment was enhanced by a modified peer led team learning environment, in which current NEIU math majors served as peer leaders that collaborated with classroom instructors and actively engaged with and mentored EMERGE students. EMERGE math students attended mini-lectures, participated in structured group activities, and completed online MyMathLab modules. Results for the 2014 and 2015 EMERGE Program mathematics component indicated a 73% and 70% success rate respectively. (Received September 21, 2015)