At every level of State and Federal governments efforts are underway to improve undergraduate student retention rates among Hispanics and other minority students pursuing mathematics and science degree programs in academic institutions. This article describes one such effort being undertaken at Texas A&M International University (TAMIU), in Laredo, Texas that focuses on increasing retention and graduation rates primarily by forming student cohorts, and by providing enrichment, advising, and mentoring as part of the STEM Recruitment, Retention, and Graduation (STEM-RRG) project, funded by the US Department of Education. In addition to discussing this unique endeavor in improving retention and graduation rates, the article also describes how TAMIU was able to formulate this program through a carefully planned format and activities which were conducted in two-week-long sessions and some monthly follow-up sessions. (Received September 22, 2010)